the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS

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Editorial Comment

Toilet Goods Fair Trade Meeting

The Federal Trade Commission is to hold a Fair Trade Practice meeting for the toilet goods industry early next year in New York. It is hoped that every participant in this industry will make every effort to attend this meeting. It is being held for their benefit and only the most slothful will fail to participate.

The pattern set by the first meeting of this kind, held for the Household Dye Trade, with Commissioner Lowell Mason presiding, showed a spirit of close cooperation and harmony.

Perfume Counterfeiters

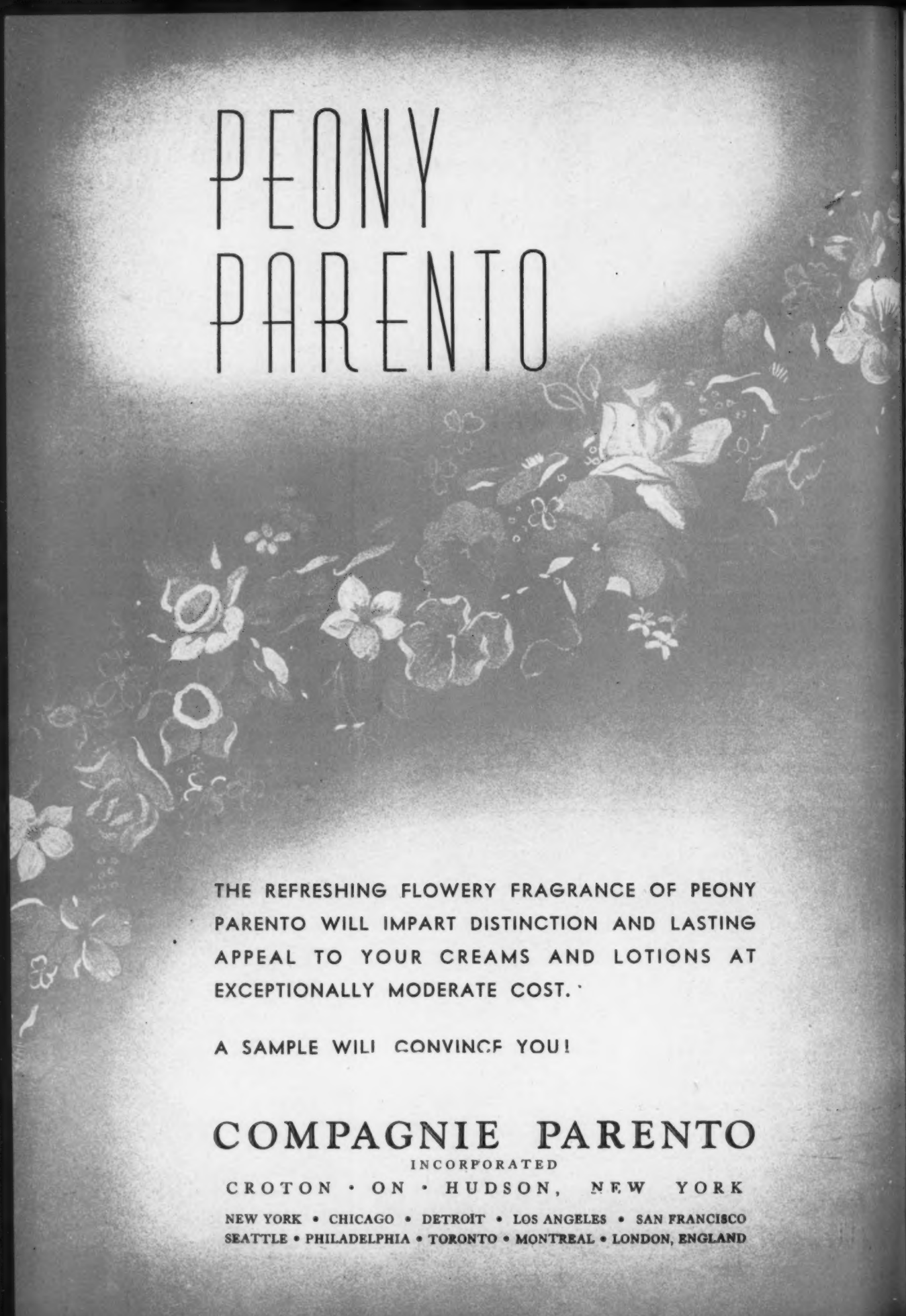
Well, they finally caught 'em. That notorious pair of perfume counterfeiters, Robert Goldman and Theodore Marks, have been apprehended, tried and convicted. One of them made the remark that it was a merry life while it lasted. Perhaps it was for Goldman and Marks. But it certainly wasn't for the firms involved. The firms that had employed the best perfume chemists, and the best package design brains available, and had spent generously of money, time and thought in bringing out a perfume behind which the integrity of their firm name stood. Nor was it for the dupes, the ultimate buyers of the spurious merchandise.

Papers Presented at Technical Society Meetings

When this is read, the meetings of the Scientific Section of the Toilet Goods Association and of the Society of Cosmetic Chemists will have become history.

They will both be marked by the caliber of the papers presented for the information of those attending, and for publication to be read throughout the entire perfume and cosmetic world.

This is a healthy condition, and one which it has long been our policy to advocate. Any industry can progress only as the "great ones" in the industry are willing to pass along their knowledge. Let us have more of this.


PEONY
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THE REFRESHING FLOWERY FRAGRANCE OF PEONY PARENTO WILL IMPART DISTINCTION AND LASTING APPEAL TO YOUR CREAMS AND LOTIONS AT EXCEPTIONALLY MODERATE COST.
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Desiderata

by MAISON G. DeNAVARRE

M. G. DeNavarre at work in his laboratory

HAND CREAM

A number of requests have come in recently for a formula for hand cream made with polyol stearate of one kind or other. The following formula is given to cover all polyol stearates, but it is realized that glyceryl monostearate works better than propylene glycol stearate with the same amount of soap as emulsifier. So it takes more soap when using propylene glycol stearate. The formula is:

Polyol stearate	12	parts
Cetyl alcohol	1	"
Stearic acid	5	"
Polyol	13	"
Water	69	"

Perfume & preservative qs.

The variations possible with this basic formula are legion. Thus, for the current popular "dry" type of product, more stearic acid and primarily propylene glycol for polyol, will give the desired result. The inclusion of 1 or 2 per cent zinc stearate is not amiss, since it too will give the "dry" effect. Preserve with at least 1:750 methyl parahydroxybenzoate or its equivalent in other preservative.

BUBBLE BATH

A couple of months ago, this column said in effect that "only in the movies do they get scads of bubbles" and that because the cost is of no moment and the equipment is elaborate. Some readers have challenged that statement by submitting samples of their own bubble bath. The result? "Only in the movies . . . ."

SKIN pH

I got your lateral pass Hal Hutchins (p. 77, November AMERICAN PERFUMER) and will surely try to carry the ball a ways down the field.

It is deep water as you so concisely put it, to discuss modes of determining, and factors affecting skin pH. There are at least a couple score of methods that have been published in the technical literature. Each has had its limitations. Each brings out the fact that the skin possesses powerful buffering properties first through its tough keratin, then through the natural components that combine to form live tissue. The literature also shows quite a range in the pH of so called normal people . . . not to mention the variety of modes of determining it.

It is undoubtedly a *basic* problem. It definitely affects cosmetic industry as it also has a fundamental bearing on the science of dermatology. To get at the root of it, both cosmetic manufacturers and dermatologists should get together. After they have tried alkaline, acid and non-ionic cosmetics, clinically, on hundreds of cases, we will know which type is correct.

It *is* deep water Hal, but not for you alone. Make room for me in that swimming pool, plus the scores of people who have studied it. What does Elmer Bobst think of it?

LOTION PRECIPITATE

One of the commonest troubles in hydroalcoholic products is a crystallization or precipitation, days or even weeks after the product has been filtered bright and bottled. I have just had occasion to see the phenomenon again. The lotion contains about 45 per cent alcohol v/v. On *cooling*, after days or weeks, a crystalline mass forms at the bottom of the bottle. It is nothing more than poorly soluble perfume ingredients, kept in solution in the original perfume oil by means of benzyl alcohol, phthallates, glycols or benzyl benzoate for example. When the perfume compound is diluted, the solubilizing agent is weakened to the point where it can't keep the solution clear. Out come minute crystals at first, later forming clusters.

The *best* way to overcome it is to get the proper perfume compound. If this is not possible, you will have to increase the alcoholic content, or add some one of several solubilizers that will dissolve in this strength of alcohol.

MOULD GROWTH

A number of synthetic gum-like materials are described as not being susceptible to mould growth or spoilage. In my laboratory within the past few weeks, I have had three samples of each get so putrid I thought a new type of limburger cheese had been developed from hydroxyethyl cellulose and sodium polymethacryllate. It is true that the synthetics are *more* resistant to spoilage than natural gums like tragacanth, karaya or acacia, but they are definitely *not* mould proof. So, when using any of these in your formulations, it is the wise man who will use preservative just the same as if the thickeners were natural gums. This also applies to methyl and carboxymethyl cellulose mucilages.

PACKING TEMPERATURE

Every technician is aware of the effect of packing temperature on the

appearance and consistency of a cosmetic . . . especially a cosmetic cream. Yet only a few days ago, an astute technician could not understand why his powder base cream was grainy and soft on one occasion, firm-smooth and glossy on another and at other times firm but grainy. Neither could I at first. Then samples were poured over a range of 30 deg. C, with a couple of degrees difference between samples. It was discovered that in his product, high temperature produced graininess with varying degrees of hardness, and that the correct temperature of 46 deg. C produced maximum gloss with best texture. If your creams are grainy, run the same test to find the optimum pouring or packing temperature. You may find that you are way off.

GLYCERIN SUBSTITUTES

One of the most overlooked replacements for hard to get glycerin are the polyethylene glycols. They are hygroscopic, the property decreasing with increasing molecular weight. The higher molecular weight compounds may affect your products' stability if used in the quantities in which glycerin is used. So, experiment plenty and carefully. The end results are worth the effort, believe me.

The major property of glycerin in cosmetic creams is its plasticising effect. The polyethylene glycols do it beautifully. They are safe to use.

SO-CALLED MEDICATION

A lot of cosmetic creams are sold with a definite *medicated* odor. Quite regularly we get requests for information on the proper formula for a medicinal bouquet. Usually, these bouquets consist of a mixture of eucalyptus oil or eucalyptol, clove oil or eugenol, peppermint oil or menthol (also synthetic menthol and isomers), camphor, sometimes phenol, thymol or carvacrol and occasionally wintergreen oil or methyl salicylate. The following is a basic formula that can be further modified to suit the need: Menthol 2 parts, camphor 5 parts, phenol 1 part, clove oil 2 parts, eucalyptol 2 parts and methyl salicylate 1 part. It takes at least 1 per cent to give a good medicinal aroma to a vanishing cream type of product.

QUESTIONS AND ANSWERS

622. COCOANUT OIL SHAMPOO

Q: *I am having trouble keeping a cocoanut oil shampoo from dropping out when subjected to freezing around 0 deg. C. I have found that most brands stay clear upon same treatment. Would greatly appreciate any suggestions you may have as to formulation, etc. My best has been around 5 deg. C., using a simple 20 per cent anhydrous cocoanut fatty acid soap.*

G. P.—INDIANA

A: If your shampoo is chilled in advance and filtered, it will maintain its clarity at low temperatures. In addition, it has been found that the addition of from ½ to 2 per cent of potassium tetrapyrophosphate will aid in keeping the shampoo clear. However, if you are using a cocoanut oil with a lot of high melting saturated fatty acids in it, it will freeze just as your product is now freezing. To overcome this, you will have to add a substantial quantity, at least 10 per cent, of some antifreeze such as alcohol, propylene glycol or glycerin.

623. PRESERVATIVES FOR EMULSIONS

Q: *While the benzoates and esters of parahydroxy benzoate are available as preservatives for emulsions of the mineral oil type, they add an objectionable taste or anesthetizing action in the mouth. From your large experience do you know of any recent preservative which will overcome these objections?*

P. C.—PENNSYLVANIA

A: The only recent preservative that we know of that has found usefulness is monochloracetic acid. We do not know of the attitude of the F.D.A. toward this product for drugs, but do know that they will not allow it to be used for foods. You will have to be careful in the choice of preservatives because if you use one that is highly soluble in mineral oil, but poorly soluble in water, there is a tendency for the preservative to leave the aqueous phase, dissolving in the oil and thereby leaving the water phase unprotected. In this line, it might be desirable for you to test one of the sulfites, such as are used in dehydrated foods.

624. TERPENELESS OILS

Q: *I would appreciate any information concerning the following:*

1. *Procedure for the preparation of terpeneless oils, especially oil of geranium.*
2. *In securing governmental approval for the manufacture of perfume, is it necessary to submit duplicate one ounce samples of the essential oils used in the formula? Does this apply to liquid absolutes and fixatives?*

P. E.—NOVA SCOTIA

A: In the preparation of any terpeneless oil, there is always the question of how terpeneless the oil shall be. We suggest, therefore, that you consult some of the books on the subject such as "The Volatile Oils" by Gildemeister and Hoffmann. Another useful book on the subject, one by Y. R. Naves and G. Mazuyer entitled "Les Parfums Naturels." These books may be purchased from THE AMERICAN PERFUMER. The only governmental approval required to manufacture perfume is if the product uses alcohol. To our knowledge, a sample of the completed formula containing the required amount of alcohol is required and not just a sample of the essential oils. If alcohol is to be used in extractions and then recovered, additional arrangements with the Collector of Internal Revenue will have to be made.

625. SULFONATED LORAL LIQUID TA

Q: *Being interested in sulfonated loral liquid TA, would thank you so kindly if you would let me know where I may purchase this item.*

H. W. J.—MEXICO

A: This material is made in England and is supposed to be the triethanolamine derivative of coconut alcohol sulfate, also referred to as lauryl alcohol. The supplier's name goes to you under separate cover.

Vibrant as sunshine and pulsating as the infusion of flowering blossoms with the Spring breeze — such is the effect of EXALTOLIDE on your perfume. EXALTOLIDE is the most highly developed, purest and strongest fixative body of a Musk-Ambergris character yet produced.

Perfume extracts, powders of any type, and creams daily are being improved and rounded by its aid, *without change of odor character.* A test will startle you! The value of EXALTOLIDE is priceless — its use economical.

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Evaluating Dentifrices

The problems which are faced in planning a safe and efficient paste or powder dentifrice are presented in this article

T. H. RIDER*

THERE have been numerous, competent reviews in the dentifrice field covering liquid dentifrices, tooth pastes and tooth powders. Typical formulas and manufacturing equipment have been described.

As a result, one gets the impression that any formula which can be picked out and compounded, is sufficiently good to market.

Formulas are even published which advise the consumer merely to buy a pound of chalk, sprinkle in a few drops of peppermint oil, and thereby save money.

The majority of consumers, while they react quickly to taste sensation, may react very slowly to the more subtle virtues of a dentifrice.

In writing this article, therefore, the author intends to stress the less obvious and more important problems to be faced in planning a safe and effective product.

LIQUID DENTIFRICES

To simplify the approach, let us first dispose of the liquid dentifrice. Historically older than either tooth paste or tooth powder, liquid dentifrices almost disappeared from the market when the more effective pastes and powders were introduced. Liquid dentifrices can be made very pleasant to use, foam attractively, tickle the taste buds but, unfortunately, there seems to be no way yet known to make a liquid dentifrice much more effective than plain water on the tooth brush. In fact, if people use a good tooth paste or tooth powder daily to keep their teeth clean, a liquid dentifrice is a very pleasant thing to use as a type of mouth wash.

Right here we've lost some readers who have turned the page in a huff! For those who have stuck it out so far, let us add that this is presented as just one man's opinion. If nothing controversial were included you may be sure, also, that nothing which is very worthwhile would be present either.

DENTIFRICES DEFINED

We should define a dentifrice as something whose purpose is to keep the teeth clean when used with a good tooth brush and a modicum of intelligence; to do it safely, effectively and pleasantly. We'll rule out of any consideration products which try to be medicines and attempt to cure athlete's gums, seven-point antlers or chopperitis.

Now we can consider what a dentifrice is. There is no fundamental difference between paste and powder except for their physical forms. Both types comprise a detergent, a polishing agent and flavoring ingredients.

The consumer makes a tooth powder into a slurry or paste at the time of use. The manufacturer sells a premixed paste, the problem being to make the paste stable.

SELECTING FLAVORING INGREDIENTS

The selection of flavoring ingredients is, from the sales viewpoint, one of the most important and one of the least standardized steps. The principle, of course, is to make a basic dentifrice which has no offensive taste or odor to cover, then to flavor it to suit the majority of people. This phase of formulation is definitely more of an art than a science.

We will assume that the reader is an artist at this job, and skip discussion of flavors with the warning that the most effective dentifrice in the world just won't sell if it isn't pleasant.

By now we have narrowed down our field to discussing detergents and polishing agents more seriously.

* Technical Director, Pepsodent Division, Lever Bros. Co.

Those who noted the by-line and who are familiar with the larger dentifrice companies and their products will know that the writer is associated with a company which has patent control over both the detergent and the polishing agent which it uses.

The writer may, then, be pardoned for the conviction, which he hopes is justified by considerable factual evidence, that these particular agents are the best yet developed. There may be still better ones developed some day—we're looking for, and would be happy to find them ourselves.

The prime purpose of the rest of this paper is to give some idea of what tests can be conducted to tell whether or not a detergent or a polishing agent or a dentifrice is good.

SOAP AS A DETERGENT

The oldest and most commonly used detergent for dentifrices is soap. Soap or one of the newer detergents is the agent responsible for the foaming action of dentifrices. Their contribution to the dentifrice is to lower the surface tension, penetrate and loosen surface deposits and to emulsify or suspend the debris which the dentifrice removes from the tooth surface. (Surveys show consumer preference is for foaming dentifrices.—EDITOR.)

While soap is still commonly used, it has certain disadvantages.

Soap is only effective as a detergent in rather alkaline solution. Some soap dentifrices have a pH as high as 11, and such alkaline products are apt to prove irritating to the gums. Also, soaps are incompatible with hard water and the calcium salts found in saliva. Remember that ring around the bath tub? Finally, soap doesn't have a pleasant taste, and the presence of soap almost demands the use of a rather heavy character and quantity of flavor which can, in itself, be irritating.

More recently, new and improved types of detergents have been developed. Most of these are no better than soap for a dentifrice, since they often taste even worse than soap.

The newer detergents, suitable for use in a tooth paste, are typified by purified alkyl sulfate which is neutral in reaction, cleanses in either acid or alkaline solution and does not precipitate with hard water or saliva. Alkyl sulfate is made from the same type of vegetable oils used to prepare soaps, but these oils are catalytically reduced to yield fatty alcohols of high molecular weight which are classified as alkyl hydroxides.

These alkyl hydroxides are solubilized by sulfation and neutralized, converting them into alkyl sulfates.

SELECTING A DETERGENT

In considering the selection of a detergent, the first questions to be answered are concerned with its stability, compatibility with the other dentifrice ingredients, and its taste. Assuming that a product qualifies as of interest so far, then it is time to study its detergent effectiveness.

There is no royal road to determining effectiveness for dentifrice use. It is wise to rely, in last analysis, only on extensive clinical study. Some insight into effectiveness may be obtained from a simple laboratory test.

Glass slides are coated with a viscous solution of gastric mucin and the resultant film is somewhat toughened by drying slowly and baking until the film just begins to discolor.

Such slides are then brushed across the center with a camel's hair brush which has been dipped into a solution of the detergent to be tested, to determine how thoroughly the film is removed by a limited number of brush strokes.

The test is ticklish. If the film is baked too hard, no simple detergent will remove it, while if the film is too soft, it brushes off with water alone. The trick is to make a series of identical slides and then make *comparative* tests.

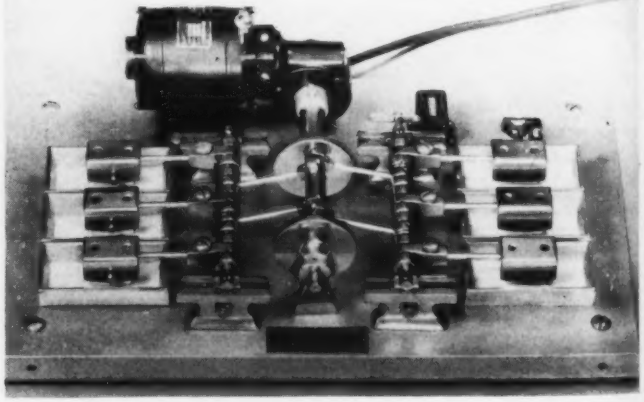
When the test is finished, the film remaining can be fixed by dipping into mercuric chloride solution, then stained with a dye to make it more visible, giving results like those shown in the accompanying photograph.

TOXICITY AND IRRITATING PROPERTIES

When you have a detergent which has passed examination this far, you are justified in devoting the time and money to prove its freedom from toxicity and irritating properties. That is a job for a toxicologist and clinician.

It would be out of place in this paper to describe the toxicity and irritation tests. If the reader has the necessary background, he doesn't need the description. For the reader without this background the author wishes to urge strongly that such tests are not only vitally necessary, but further that they are useless unless conducted by a man or

Left slide was cleaned by brushing with alkyl sulfate 0.1 per cent; right slide with castile soap 5 per cent



Full view of the abrasion machine which is used for control tests in the research laboratories of the Pepsodent Division, Lever Bros. Co.

organization with the full know-how and the necessary facilities for extensive testing on animals and for testing in the clinic.

Now we have stripped our dentifrice discussion down to the last ingredient—*the polishing agent.*

THE POLISHING AGENT

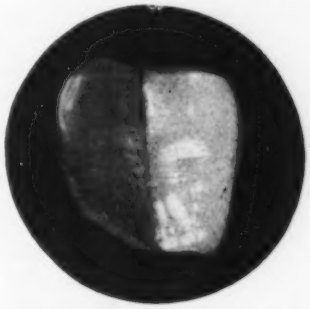
The polishing agent, also, must pass a very critical preliminary investigation before it is studied in detail. It must be white, or of a color which permits a good-looking end-product. It must be compatible with the rest of your formula. It must be of a particle size which won't fly away when used as a powder, yet won't be large enough to be gritty in the mouth. It should be free of "earthy" taste, and, of course, it must be non-toxic.

The major study of the polishing agent is the investigation of what it does to the tooth surface. The very name says that it should polish the tooth surface, but does it?

The first test is to determine the abrasiveness of the polishing agent. Methods of determining abrasiveness have been frequently discussed in the literature. The simplest test is merely to rub a water slurry of the polishing agent against a glass microscope slide, rubbing it with the finger, another piece of glass, or a piece of metal. If the glass slide is definitely scratched, the polishing agent is probably undesirably abrasive.

Many more sensitive tests have been designed. The most highly developed methods use machines which move a tooth brush back and forth against a metal test specimen or extracted tooth. Those who have made a study of various abrasion tests are familiar with their limitations. Antimony or copper test specimens are capable of giving the most easily reproducible results, and are unquestionably the best for routine control tests.

The author hopes that it is quite obvious that such abrasion tests are to be run, not only to evaluate a new product, but also to control both the raw materials and successive batches of the finished dentifrice. For control tests we use the abrasion testing machine shown in the picture on the preceding page.



The left half of the tooth has been brushed with a poor, the right with a good polishing agent

ABRASION TESTS ON HUMAN TEETH

When metal test specimens are used, abrasion is usually expressed in terms of the weight loss of the specimen following a standardized length of brushing. Extracted human teeth may be mounted in the cups of the abrasion machine instead of the metal specimens, and in this case abrasion is determined by measuring the thickness of the tooth specimen before and after the test.

Even such use of extracted teeth by no means guarantees that the test results will duplicate what may happen in the mouth, but the combination of tests will give some idea of the *comparative* abrasive action of different products.

When teeth have been used in such a brushing test, there is more to be learned than just the measured abrasion loss. Examination of the teeth under a microscope will tell something about the tendency of the polishing agent to scratch tooth enamel.

Some agents produce a smooth surface with a good, glossy lustre, while others leave a dull rough surface. Unfortunately, chalk, one of the most commonly used agents, is also one of those most apt to produce a dull, rough surface. In fact, when we determine the lustre-producing powers of a polishing agent, it is our custom to brush the tooth with a slurry of chalk and water to produce a dull surface which is then used as the specimen to determine the ability of other polishing agents to improve it!

While marked differences in lustre are easily visible to the naked eye, the differences can be determined more exactly. One of the most effective methods is to use a recording spectrophotometer which illuminates a test area with a standard beam of light and analyzes the reflected light to determine the degree of specularity.

In the absence of such specialized equipment, other, simpler methods may be used. Simple examination of the tooth surface with the microscope shows that the dull surface is typically rough, with individual enamel-rod ends clearly visible as rough entities, while a highly-polished surface is so smooth that little surface detail is visible.

The difference in smoothness may be clearly demonstrated by a very simple test. Using an extracted human tooth with a good, normal-appearing enamel test surface, cover one-half of the test surface with a piece of metal foil or a tightly-stretched rubber band and brush the exposed half with a tooth brush wetted with a slurry of one polishing agent until there seems to be no further change. Then cover the surface which has already been brushed, and proceed to brush the other part of the enamel with a second polishing agent until it, too, shows no further change. Such tests can be accomplished easily with the brushing machine illustrated, but elaborate equipment is not necessary for results.

The tooth may be mounted on a wooden block with sealing wax, held in one hand and brushed with a brush held in the other hand.

Now, uncover the tooth, rinse and dry it, and rub the entire enamel surface well with graphite (a pencil will do). Then take a soft tissue and try gently to rub the graphite off. You will find that the rough surface will not rub clean, while the smooth-polished surface of the tooth, however, will.

Typical results of this experiment are shown in the accompanying photograph of a tooth, the left half of which has been brushed with a poor polishing agent, while the right half has been brushed with a good polishing agent.

TEST FINISHED DENTIFRICE

The tests described are applicable to the study of individual ingredients, and all of these tests can and should be applied to the finished dentifrice as well.

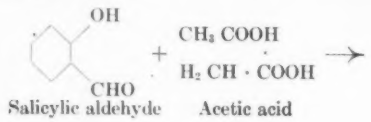
There are, of course, many other tests and studies necessary to the formulation of a good dentifrice. Space limitations prohibit any attempt to discuss them all. However, if your dentifrice compares favorably to the best on the market today by the criteria outlined, you may be sure that it is better than average.

THE NATURE OF LACTONES

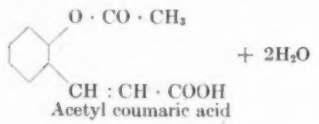
Lactones are readily prepared . . . are chemically stable . . . They are soluble . . . Lactones have pleasant and powerful odors

R. W. MONCRIEFF

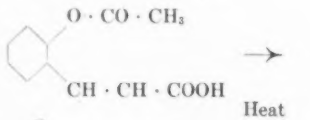
COUMARIN is so well known that it is not proposed to spend long on it here, but for the sake of completeness it seems desirable to note its main characteristics. It is a crystalline solid m.p. 68 deg., readily soluble in alcohol. It is the basic material for all perfumes of the foin-coupé or new mown hay type. It occurs naturally in Tonka beans and in the leaves of the American deers-tongue *Liatris odoratissima*, and is found in oil of lavender. Coumarin is usually obtained from salicyclic aldehyde by Sir William Perkin's synthesis

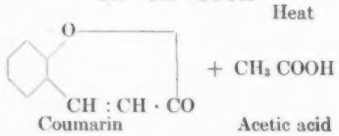


Salicylic aldehyde Acetic acid



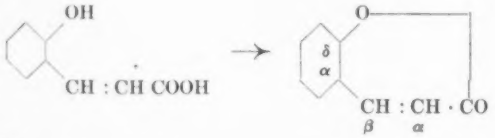
Acetyl coumaric acid





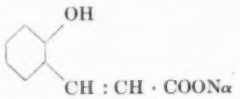
Coumarin Acetic acid

It will be seen that coumarin is the lactone of *o*-hydroxycinnamic acid



(This article is continued from the November issue of THE AMERICAN PERFUMER.)

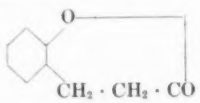
and that it is a δ-lactone. On boiling with alcoholic soda it is hydrolyzed to sodium coumarate.



Another method of preparation is from *o*-hydroxy benzylidine chloride.

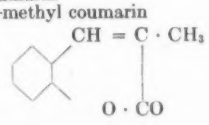
ODOR OF COUMARIN

From the standpoint of the relation between odor and constitution it is interesting to note that dihydrocoumarin

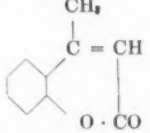


has only a faint odor of coumarin. The unsaturated linkage, as is common, intensifies the odor. The behavior of many substituted coumarins on oxidation has been investigated by Angeli and Polverini[6] and they have found that amongst this class only those coumarins have odor which are readily oxidized. They suggest at the same time that ease of oxidation may be a pre-requisite for odor and that the mechanism of olfaction may involve an oxidation process. The method they used was to find the length of time necessary for a 2 per cent solution of permanganate to be reduced from purple to brown under specified conditions. Some of their results were

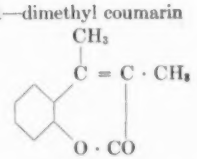
Coumarin Derivative	Time of Resistance to permanganate	Odor
Coumarin	14 secs.	Intense
3—methyl coumarin	17 secs.	Intense



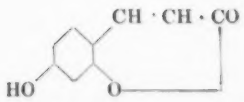
4—methyl coumarin	150 secs.	Almost inodorous



3 4—dimethyl coumarin	200 secs.	Inodorous



Umbelliferone is a derivative of coumarin with the formula which follows. It resembles coumarin in odor.



It occurs free in *Daphne mezercum.*

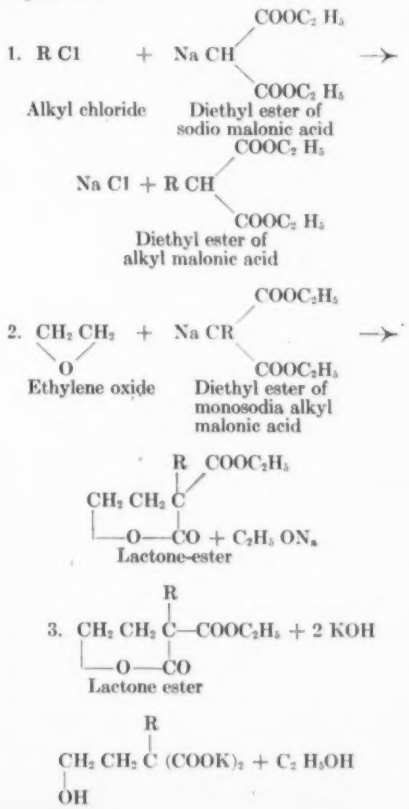
In addition to its application in perfumes, coumarin is used in confectionery, mineral waters and fruit essences.

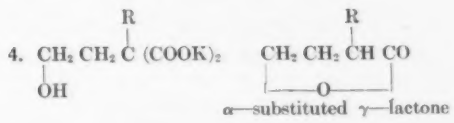
ROTHSTEIN'S WORK ON ODOR AND CONSTITUTION

The most comprehensive program of work yet undertaken on the relation between constitution and odor in lactones was that of Rothstein. His inquiries were directed specifically to the odors of isomers and to the changes in odor in a homologous series. In his own words[7]

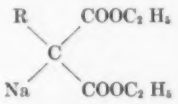
"En dépit du nombre considérable de faits expérimentaux accumulés depuis de nombreuses années, la chimie de matières odorantes n'a pu formuler aucune loi generale, en ce qui concerne l'influence de la constitution chimique sur l'odeur, et plus spécialement sur les différences d'odeurs qui existent entre isomères (chaînes droites et chaînes ramifiéas, isomères de position dans la série aromatique etc.) ou sur le rôle des doubles liaisons tantôt considerable (série des ionones, noyaux benzénique ou naphthalénique) quelquefois a peine sensible (géraniol et ses dérivées diet tetra—hydrogénés, civettone et dihydrocivettone etc.)"

In addition to examining the effect of position isomerism and variation of odor in a homologous series, Rothstein also had in mind the possibility of obtaining musk odors in the higher members. The method he used to prepare α-substituted γ-lactones was to condense the appropriate sodio-malonate with ethylene oxide, and may be gathered from the equations

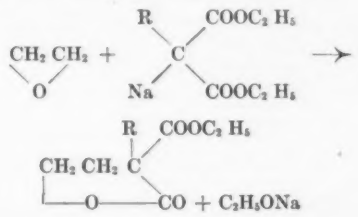




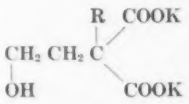
The alkyl chlorides were obtained by the action of thionyl chloride on the corresponding alcohol in the presence of pyridine. In the case of the hexyl, heptyl, octyl, nonyl, decyl, undecyl and dodecyl chlorides this gave an 80 per cent yield and a modified method gave 60-70 per cent yield in the case of the chlorides from citronellol and rhodinol. The alkyl malonic esters were made by reacting the chloride with diethyl sodio malonate in absolute ethanol, and gave a yield of 50-60 per cent, although if the alkyl bromides were used instead of the alkyl chlorides the yield was better at 80-85 per cent. The alkyl malonic ester was heated with one atom equivalent of sodium dissolved in fifteen times its weight of ethanol, and after several minutes the sodio alkyl malonic ester



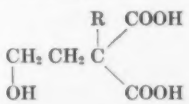
precipitated, the reaction being completed by gentle warming. The ethylene oxide was condensed by a refrigerator at —15 deg. C., and taking care to exclude moisture the condensed ethylene oxide was passed into the alkyl sodio malonic ester, allowing the temperature to rise to that of the laboratory and finally warming to 40-50 deg. C. for two hours. This completed the reaction



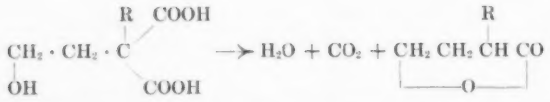
Then four molecular equivalents of caustic potash as concentrated aqueous solution were added and the whole boiled for several hours to complete the saponification, this reaction giving the compound



The alcohol was boiled off, the aqueous solution was washed with ether to remove any unsaponified material and then acidified with sulphuric acid. An oil separated



and was extracted with ether, and the ether extract washed with small quantities of water two or three times. The ethereal solution was dried with anhydrous sodium sulphate and filtered. Then the ether was boiled off and the residue distilled *in vacuo.* During the distillation water and carbon dioxide are split off and the α-substituted γ-lactone is formed



The distillate (which contains the water split off) is extracted with ether, and washed with ten per cent sodium carbonate in water. It is then dried and the ether boiled off. The residue is again distilled *in vacuo* and gives a yield of 70 per cent of the lactone.

Aside from the odors of the lactones which will shortly be considered, Rothstein observed that the alkyl malonic esters had interesting odors. Those of low molecular weight had powerful odors of the cumin anise type with a suggestion of pear, but as the molecular weight increased the odor fell off and the diethyl ester of nonyl-malonic acid was almost inodorous.

The odors of the butyrolactones were found to vary greatly with the sustituent radicle. Some are listed:

γ—butyrolactone $CH_2CH_2CH_2CO$ (O) — Faint aromatic

α—allyl γ—butyrolactone — Cumin, angelica, feuille de menthe

$CH_2CH_2CH\,(CH_2 : CH\,CH_2)\,CO$ (O)

α—propyl γ—butyrolactone — Cumin with trace of anise

$CH_2CH_2CH\,(C_3H_7)\,CO$ (O)

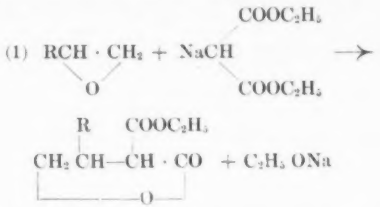
α—butyl γ—butyrolactone	Cumin, anise, trace of ambergris
α—isoamyl γ—butyrolactone	Angelica seed—ambergris
α—hexyl γ—butyrolactone	Ambergris—apricot leaves
α—isohexyl γ—butyrolactone	Green note, apricot, amber and musky
α—heptyl γ—butyrolactone	Peach—fresh musk
α—octyl γ—butyrolactone	Peach odor more marked. Green note weak. Musky.
α—nonyl γ—butyrolactone	As previous but weaker. Note of coco flowers.
α—decyl γ—butyrolactone	Fresh unctuous odor, musk, coco.
α—undecyl γ—butyrolactone	Musk—coco.
α—dodecyl γ—butyrolactone	Musk—coco but fainter
α—geranyl γ—butyrolactone	Musk—fresh peach
α—citronellyl γ—butyrolactone	Musk, pear, peach
α—rhodinyl γ—butyrolactone	Mellow musk, peach
α—phenyl γ—butyrolactone	Balsamic
α—benzyl γ—butyrolactone	Reminiscent of Tolu balsam

The geranyl, rhodinyl and citronellyl substituted lactones were very similar, but the geranyl was more 'bois' and the citronellyl was the most mellow. It is noteworthy that the isoamyl substituted lactone has an odor like that of angelica seed. In the straight chain substituents the heptyl, octyl and nonyl butyrolactones have a peach odor which is decidely musk-like. The musk odor is retained by the next three members which in addition have an odor of coconut oil. Comparison of the hexyl and isohexyl (diethylethyl) butyrolactones shows that the chain-branching intensifies the odor and especially the green note. The odors of most of these lactones (except phenyl and benzyl) have also a weak fruity note which gives a happy *ensemble*.

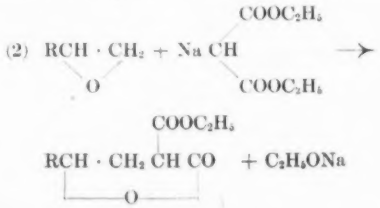
In another paper Rothstein[8] investigated the effect of substituting in the γ-position instead of the α-position

γ-substituted γ-butyrolactone — α-substituted γ-butyrolactone

A similar method of preparation was used, but in this case a substituted ethylene oxide was used and reacted with an unsubstituted sodio-malonic ester. Substitution in this case was in the ethylene oxide, whereas previously (for the α-substituted lactones) it had been in the malonic ester. The possible reactions may be represented



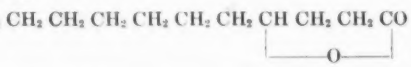
which it will be seen gives a β-substituted butyrolactone, or



which gives a γ-substituted butyrolactone. By making solid derivatives, notably hydrazine-lactones by condensing the lactone with hydrazine hydrate, Rothstein established that only reaction (2) went, i.e., the products were exclusively γ-substituted γ-butyrolactones.

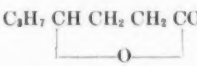
Some of the γ-substituted γ-butyrolactones were known previously and had engaged the attention of perfumers

Heptyl butyrolactone



also known as undecalactone or Peach lactone is the base of numerous compositions on account of its powerful peach odor and relatively low price. According to Delange the peach odor of the next lower member—decalactone—is much finer and more powerful than that of undecalactone.

Heptalactone



has a trèfle sec odor which is a shade different from other odorants of the trèfle class.

[8] A. Angeli & A. Polverini, *Gazz. chim. ital*, 61, 276-80 (1931).
[7] B. Rothstein, *Bull. soc. chim.*, 2, 80-90 (1935).
[8] B. Rothstein, *Bull. soc. chim.*, 2, 1936-44 (1935).

(*This article will be continued in the January issue of* THE AMERICAN PERFUMER.)

Talc Deposits in Central Australia

Valuablle deposits, said to be equal to high-quality Indian talc and likely to replace it in the Australian market for face and dusting powders, have been found on Flinders Range in Central Australia, reports the foreign press. About twenty-five tons of high-quality talc are being produced each week, it is stated.

With the opening of the New Year there are two factors which every manufacturer will face relative to the retail trade: Selectivity, and price resistance. Both have reared their heads during the past month and as time goes on and prices of food and other necessary essentials continue to rise the slump in consumer sales which has been recorded for the past six weeks will be even more apparent.

The upward price trend—much of which is in keeping with the higher cost of living—has not tended to increase the distribution of cosmetics which a well equipped department must carry. Buyers have already been exercising their new found powers of selecting merchandise to clear out all slow moving items and do not plan to replace these.

COSMETIC TRENDS IN THE MID-WEST

JEAN MOWAT

FOR the coming New Year, packages will play a role of marked importance. For the average woman, whose specific information on cosmetics is so limited and for which little education is provided by any store or maker of cosmetics, the package with a nationally recognized brand name is one which she will purchase in preference to even the store's own brand. Few stores are yet able to pack under their former brand names but this is expected to be done soon after the first of the year.

UNIT PACKAGES ACTIVE

Whoever it was that decided two sales could be made in place of one had an idea which the cosmetic sections are finding of great value today. There are units of nail polishes, half a dozen different shades and a remover, which have been a good selling item. The various combinations of dusting powder and bath oil is another; the soap combined with talc or any of the oils for the bath or face is a quick seller. In this same idea of two-for-one is the perfume dispenser for the purse with a bottle of perfume. Some of these are in the higher-priced brackets and with the perfume and dispenser is a funnel so that one may easily do a re-fill. In some of the very smart shops such as Peacock's in Chicago this is a sale of great importance. Kern's in Detroit offered an all-metal flacon that could be used for perfume, cologne, hand lotion, dry perfume, even face powder. These, priced at $1.25, were a prize for the early shopper.

Into this same classification of unitized selling goes the group of men's goods which are expected to reach their peak this year. With some 300 lines from which a buyer can choose there is expected to be a weeding out to half this number. How and when this will come is generally determined by the selective buying now being done for next Spring and through the price of lines. Only quality merchandise will be carried. Buyers are keeping tabs on the returns and as far as possible on the why.

SPRING TIME CLINICS NEEDED

Apparel sections always hold fashion shows in the Spring. Today many of the cosmetic buyers are considering holding cosmetic clinics to give women the best information as to style and color in cosmetics. Several have already been held. The results from those held last Fall were amazing and new ones are planned.

The Fair, Chicago, held a very successful one from the angle of promotion. But it was also one which opened the eyes of the staff to the fact that few women knew how to apply cleansing cream and have it do its full duty. Dabs, rather than a "lather" of cream seemed to be the idea. Even the younger group, patting itself for its blasé ideas about make-up, got a few bad jolts. As a result of this one clinic—and the work of demonstrators throughout the city—there are more natural complexions seen today than in years. In fact, as has been mentioned in this column, one's age can almost be determined by the way in which rouge is applied to the cheeks, and omitted from the lips.

That clinics will be offered is news that may yet make any department store or specialty shop easily compete with the drug chains. The latter have given such intensive and correct education to their people that even the top stores, high in style and rated as ones which always know what is what in style, complain about the excellent selling these girls are doing. "And what is more," said a department official, "those girls are paid prices that no department store could match."

MOVING INTO LARGE SALES VOLUME

All water softeners are being plugged by salesmen these days. First to sell the product and secondly as a promotional idea for the stores to feature in a way to conserve the precious soap which has virtually been cleared from all shelves. Water softeners, with fragrance, are moving well.

Bubble baths remain a question as to volume of sale. When there is a softener in the contents, sales are steadily improving, but when this has been omitted sales are slow, even when the product comes in gay packages. Bath salts in their full array of colors are always a softener, and so

are moving well and the outlook for the next three months is for the largest sale recorded in the past few months. These are featured in the Northwest Twin Cities as soap savers.

Bath oils, even if these do leave a ring about the tub which is difficult to remove, are high in favor. For the Winter, these are expected to improve when tubbing rather than a shower is the order of the day. Pine continues to be the fragrance in first demand for bath oils and this is also true for all softeners and salts.

There has been much discussion recently throughout many of the buyers' offices as to the place of masks in the current sales of cosmetics. Some stores will not permit them to be sold. The reason is that women much too often do not read the directions on a package and may be careless, thus endangering their complexion.

Such stores do not want law suits and the women who do the foregoing are probably the same as those who buy a home cold-wave set and instead of following directions leave it on for many hours, with serious effects. Yet stores that sell masks do not report any bad effects, but rather indicate that the future movement is upward. With higher prices for all cosmetics only a matter of time, the average saleswoman is going to sell to the best advantage to obtain full results—this will include a cleansing cream, the mask, a lubricating oil, the basic powder cream and rouge. This combination will insure a well kept skin. The mask, used once a week is highly recommended to keep a fresh appearing and very clean skin, as the mask tends to remove all dead tissue. Directions must be followed and when done they are successful. The chains do a big business in them and also report an excellent repeat sale.

CASES FOR TRAVEL

With every travel company in the Middle West stressing the need for taking a vacation when resorts are not crowded, when prices are reasonable, and especially accenting the smartness of a vacation in Sun Valley, or Quebec for the skiing, there is an all-year-around chance of selling travel kits, rather than just as a de luxe holiday item. Hudson's has been offering one in which one places her own preparations, with room for overnight apparel.

Hudson's also make a point of packages that contain cologne, bath powder, bath soap; others are sachets sets, perfume and cologne. Prices range from the small units of $3 upward and a very smart outfit can be had for $10.

For many years certain perfume concerns have had their own people back of the counters and handling the sales. In fact, many of the cosmetic concerns have done this. These salespeople were on the company pay-roll . . . today there is a definite trend toward changing this and placing them on the store's own pay-roll. The traveling demonstrators will continue their work, for these women are the "pepper" for any departments that need stimulation.

One store in Chicago has completed this change-over with highly satisfactory results.

YOUTH IS ACCENTED

National ads give more stress to the use of creams and powders that will accent youth than do the stores throughout the Middle West. Yet few of these stores miss the presentation of the idea in the department, although few of them get into the consumer press, which is always taken without salt by the average woman reader. Where papers have used this appeal, the sales made have been heavy. While no one can guarantee the youthful line versus approaching jowls, yet the fact that there are creams for freshness, and masks to aid, goes a long way to enable a woman to benefit by the idea.

The time has come said Alice, to the Rabbit, to select the right scent for the big holiday event. When this is read, most of the selections will have been completed. Many of the bottles will carry the personalized initials of the person to whom the gift is being made. Others will be bottles well worth any collector's time and as such will be cherished.

Most of the Middle West stores, especially the Des Moines group, and those in Kansas City and St. Louis, will make the appeal for perfume with matched cologne fragrance. While either is an acceptable gift, the unit sale is having a quicker response than was expected.

Among the imported fragrances there are some selling in handsome bottles, that look like museum pieces of the 1890's, priced at $50 the ounce, and which are complemented with a matching cologne. In selling the perfume, it is the cologne which is used as the testing base, because of the lower price per bottle. This unit is considered a good price and sales, while not in mass volume, are substantial for an item of that price. Many bottles carry an import signature.

Perfume windows have been as lavish, as extravagant, and as elegant as the first night opening of the Met and consequently women will buy and hope to receive such gifts. The early purchases made in this area cover the entire range of fragrances—there is floral for the younger group, and spice for the dress-up hours, while the dowagers still cling to the heavy scents that were popular in their youth.

HEAT FOR THE SKIN

The recent presentation of a special lamp and an oil to improve the skin texture has had a much more favorable reception than was expected. Some stores find it moving well. Others will not carry it because of the danger to the woman if she does not follow instructions. Queries by mail, by phone and in stores which have featured these have been heavy. When it is a question of how good is the product—the answer can easily be made—the clerks in the department are buying the unit and report excellent results. Their skins look it, too. The idea is not new, for it is a part of every well-given facial but the idea of having the woman use it in her home is new. The market can easily be glutted, for the bottle of oil sold with the lamp is reported as good for six months. Not much turnover in that type of selling.

Many stores can say with truth—no soap. Others offer only fancy soaps and because they are far out of normal price lines, have it. With inventories approaching, these soaps are to be sliced bare and so moved out. All of the well-known brands have been sold and the call for superfatted types continues strong.

PERSONAL

Miss Flora Ingersoll who was buyer at Chas. A. Stevens & Co., Chicago, for the war years, resigned three months ago, took a holiday, and is now buying for Bullocks, Palm Springs (Calif.) store.

Mrs. Patty Roope succeeds Miss Ingersoll.

Short Adages

by R. O'MATTICK

"I can see the Christmas displays now, Mary Alice Kelly's night cream . . . Mary Alice Kelly's foundation cream . . . Mary Alice . . . !"

AND a very Merry Christmas to you all! May your shadow never grow less, as the Ancients said, and may you have a Happy New Year with health and prosperity and all those big orders you didn't get in the days of 1946. (You may still get them in 1946! The year isn't over yet!)

* * *

We were riding on one of those new Diesel engine busses the other day—only a stone's throw from the editorial office of YE AMERICAN PERFUMER, which is why we slipped so comfortably into the editorial We. Thinking back to the days of horse-cars, yes, we can think that far back, and of all the changes in this little old town which Editors like to write of as The Big City, we suddenly developed a nostalgia for Paris. Looking up through the windows to get back to our surroundings, we saw—sans se bercer d'illusions—a café-bar along the avenue, yclept Café Place de la Concorde. That would hardly merit attention in this column—most of whose readers know most of the bars—were it not for the fact that a minute later our trusty new high-powered Diesel engine bus overtook a horse-driven bakery wagon on whose sides were painted the words "Patisserie de L'Etoile."

* * *

Pat Chouli, the ever-curious and ingenious Essential Oil salesman, said that he had to look up the telephone number of some association in the Red Book the other day. After finding the number, his eye went down the page and he was amazed to find how many associations there are in New York. Some are called institutes and some are called councils, but here are a few he jotted down which are gems:

* * *

Assn. of Manufacturers of Chilled Car Wheels.

Assn. of Junior Leagues of America, Inc.

Motor Fire Apparatus and Fire Engine Manufacturers of America.

Society of Magazine Photographers (that's one to join) and right below that: Society of Mayflower Descendants.

Technocracy, Inc., is still listed as an association and then there is the Heating, Piping, Air Conditioning Contractors New York City Assn.

* * *

But associations have their value and if there is one for almost everything under the sun there are all kinds of things and activities under the sun. If you haven't joined the Toilet Goods Association and you belong there—you should join and belong. However, if you manufacture chilled car wheels instead of cold creams or chilled lipsticks or chilled toilet waters and things like that, you ought to belong to the Assn. of Manufacturers of Chilled Car Wheels. It is all very simple—as simple as all that.

* * *

When we usually enter the inner sanctum of Dr. Rowmateral, he greets us with one hand while with the other he inevitably holds a perfume blotter near his nose. On this particular day the blotter nas near his tongue. "This must taste well, also," he explained, anticipating the curiosity on our part.

It is a violet odor to give fragrance to a flavor foi confectionery. And the good Doctor, who, much to our surprise, is an expert on the mysteries of candy-making, discoursed on fondants and toffees and chocolate dipping and spontaneous crystallization of cooked syrups and automatic continuous cookers and steam-jacketed vertical tubes containing hollow taper-spirals of gunmetal.

* * *

"Yes," he exclaimed, with a strange mixture of pride and disgust—"one ounce of this violet perfume goes into five gallons of flavor from which ten tons of the candy are made!" Think of what I have to know about the manufacture of confectionery to get this business, on one ounce of violet and I didn't get the order yet! The Board of Directors of the candy company in question have a meeting tomorrow. I do not know whether it is to examine the violet odor for their candy or to examine my knowledge of their business. Bah—perfuming candy is no sweet affair!"

* * *

The fashion in perfume odors has an endless number of possibilities. This is more true of odors than of cosmetics because it is easier to make interesting variations in odors than in say the shades of lipsticks or in the texture of face-powders. We have obtained a promise from Dr. Rowmateral to write an article on this subject at some future date and trust that we shall publish his findings in our Column before next Year is over. Meanwhile, the good Doctor says that he is busy trying to find bottles for his old odors, let alone worrying about the possibilities for new ones.

IS NEW Plant Construction JUSTIFIABLE NOW?

E. WARREN BOWDEN* *A building expenditure is justified that will cause an increase in labor efficiency, in production, and that will result in an overall benefit to the business*

NOT long ago a well-known manufacturing company in the drug field was contemplating an expansion program that included the construction of a new plant. The discussion of the subject by the Board of Directors quite obviously centered around the dollars and cents involved. They were frankly worried about high building costs and remained indecisive until the chairman asked, "How many of you gentlemen can tell me the cost of our plant?"

Not one could tell him. "You see," he said, "we seem to think that building costs are all important, yet not one of us knows the cost of our existing manufacturing facilities. If the founders of this company had remained indecisive about constructing a plant in their day, I wonder if any of us would be here now with the opportunity to decide on an expansion program."

This particular company went ahead with a new building, and the outcome was an increase in production by 100 per cent, with an increase in floor space of only 33 1/3 per cent, and they expect to pay for the building out of the savings derived from increased efficiency.

GROWING DEMAND WARRANTS INCREASED PRODUCTION

Many manufacturers of cosmetic products are faced with a similar dilemma. They are tragically in need of more and better space for increasing production to keep pace with growing demand, yet they are afraid to build a new plant because of the high cost involved.

This attitude of caution is not without cause since construction costs, in keeping with all other costs in our economy, are much higher than they were in pre-World War II years. Moreover, the trends in future costs are difficult to forecast in such a formative post-war period. Consideration of past experience plus three dominant present factors justify one in believing that in the not far distant future we may look for a more stabilized cost condition. The dominant factors mentioned are labor rates, labor efficiency and availability of materials.

Labor rates will undoubtedly increase, tending to boost construction costs, but at the same time labor efficiency, now at a relatively low level, will rise to partially offset the rate increases. Also, improvement in the supply of construction materials will tend to decrease costs.

The volume of industrial building now under way and in prospect is enormous. The cosmetic industry is involved in a good proportion of the construction program.

The problem facing many manufacturers of cosmetic products today is not "Can we afford to build?" but "Can we afford *not* to build to meet the keenly competitive conditions ahead?"

Certainly, there must be some excellent reasons for a manufacturer to build under present conditions. Actually, the existing and prospective high cost of wages for production, coupled with the low cost of money, amply justify the progressive manufacturer in providing efficient quarters for his operation.

When it is considered how small an amount, relatively, is represented by the annual charge for the plant building

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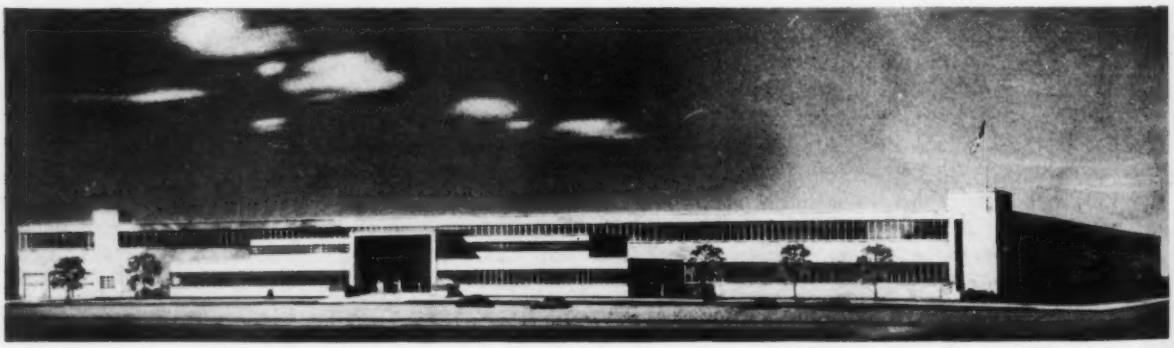

The construction of a new plant is justified in providing efficient operating quarters

as compared with the annual cost of wages, it becomes apparent that any reasonable expenditure that will cause an increase in efficiency of labor, will result in an overall benefit to the business.

EFFICIENCY IN PRODUCTION

Efficiency of production is governed by a large number of things, and admittedly the most important single factor in increased efficiency is the introduction of more modern mechanical equipment used in the manufacturing process. But the use of such equipment is often precluded by the complete inadequacy of space arrangements. An adequate building and efficient equipment go hand in hand.

The cost of labor to produce a given product is affected very materially by conditions that exist in the plant itself. For example—in many plants the limitations imposed by an obsolescent design require that the materials in process be carried back and forth without the benefit of efficient mechanical conveyors, and over routes which in a properly laid out plant could be reduced to a fraction of the present travel. If the existing multiple-story plant with limited areas, closely spaced columns and numerous bottle necks, could be replaced by a properly designed modern plant, a markedly increased efficiency would result. Employee attitude is also an important factor in the amount of work produced, and it is commonly recognized that improper lighting, poor ventilation and the absence of adequate employee facilities may have a very retarding effect on the total output of the finished product.

Of course, there is no average plant condition that will be really representative for the cosmetic industry, and the relationship between wages paid and the cost of the investment in different plants varies widely. However, from experience in what might be called the average type of plant now being designed and built, it appears reasonable to state that the annual charge for interest, amortization and real estate taxes on the plant itself, without manufacturing equipment, amounts to only about one-tenth (1/10th) or less of the sum paid annually for wages of employees in that plant. Take as an example, one plant in which the investment was about $400,000. On a 20 year basis, the annual cost of interest and amortization to pay off the full cost of the plant is about $30,000, and taxes on the real estate amounts to an additional $10,000, making a total of $40,000.

This plant has an annual payroll of not less than $500,000. By building the new plant the owner was able to decrease his labor requirements by much more than the eight per cent of his payroll which would meet the entire cost of the new plant. At the same time the amount formerly paid for the lease of antiquated facilities is completely eliminated.

There are numberless such instances where studies will demonstrate that the proposed new plant will pay its complete annual cost in terms of wages saved. Sometimes, savings in handling alone will pay for the new plant. One instance of this is a company renting several loft areas in the New York district, where it is necessary to move semi-finished items from one location to another by truck. The savings affected by eliminating these trucking charges will alone more than pay the annual carrying charge on the new plant.

Other factors tend to favor new construction in spite of the comparatively high costs. For instance, there might be a definite shift in the geographical location of raw materials which would make it advisable or, in some cases, mandatory for a manufacturer to move his operation close to his source of supply. Or a change in marketing conditions, consumer habits or even the labor market could similarly call for a new plant in a new location.

Saving from the elimination of warehousing bottlenecks is another benefit of a new plant that can increase efficiency and thus help pay for the building. Modern warehouse facilities are planned not only with regard to smooth handling of raw materials and finished products but also with consideration for possible expansion. The warehouse—indeed the whole plant—now under construction for the Maltine Co. has been designed so that consideration can be given to further expansion on the property.

COST OF LAND

Brief mention should be made of the cost of land in connection with a new building program. The many problems involved in choosing a plant site will be discussed in a separate article, but a warning is in place here: no manufacturer should choose a plant site without careful consideration of every possible factor. Frequently, a more expensive piece of land will save money in the long run.

The wisdom of investment in efficient plant facilities becomes more and more apparent as the compensation paid to wage earners is increased. The relative annual cost of carrying the new building as compared to the greatest total now paid for wages not only amply justifies the new building, but indicates very clearly that it is unwise to cut corners and affect minor savings in plant construction which may have an adverse effect on production.

This plant has been designed so that consideration can be given to further expansion

Perfumer AND Composer

Developing compounds from natural and synthetic aromatics is the highly specialized and skilled job of the "composer"

DR. P. JELLINEK

THE steady development in science, technique and industry has, especially during the last few decades, been responsible for a corresponding expansion of necessary knowledge in specialized fields. Consequently professionals also have been compelled to continually deepen their knowledge.

In ancient times one can find that among the primitive peoples a priest, a pharmacist and a doctor were one and the same person. These professions are strictly separated today. To speak in particular of the medical profession, we have specialization in "intern practice," "surgery," "dermatology," etc., and even surgeons are further specialized as larynx, lung and brain surgeons.

In a broad sense the same can be said about the cosmetic industry, which began to divide and specialize in various fields such as soaps, perfumes, and cosmetics, a long time ago.

PERFUME INDUSTRY

In the field of perfumery two industries have developed: aromatic chemicals and perfumes. The fields of both industries are well known. Aromatic chemicals is a branch of the chemical industry producing basic materials, the perfume industry should be looked upon as the manufacture of finished consumer goods.

Both industries employ specialists who are generally known as perfumers. The fact that the profession of the perfumer of today is a highly specialized and skilled job is not yet sufficiently recognized by either the public or both industries.

As far as the perfumer in the aromatic industry is concerned, the following can be said about him:

(1) He has to check the basic materials manufactured by his company (essential oils, infusions, aromatic chemicals) with regard to their smell qualities. To make a chemical analysis only would not be sufficient.

(2) He must further study the reaction of the different aromatic chemicals which may take place when they are used in the various vehicles and cosmetic preparations. He must know what aromatics are fit to be used in toilet soaps; in what proportion they are soluble in the various vehicles (oils, alcohol, water); in which certain aromatics should not be used due to volatility, inclination to oxidation, discoloration or irritation of the skin.

(3) It is his job to combine the proper aromatics in order to obtain compounds of a pleasant, characteristic fragrance simulating a natural flower odor, or creating a well-blended fancy type.

(4) It is further his job to make compounds so that they are suitable for their use in lotions, cremes, powders, soaps, etc. Since it is the perfumer's most important task to develop compounds from natural and synthetic aromatics one could very well classify him as "composer."

The actual perfumer's work is confined to the perfume industry, as well as to factories which manufacture lotions, extraits, cosmetic preparations and toilet soaps. It is his job to scent the various items appropriately with the material, the compounds, created for the most part by the "composer."

THE MANUFACTURE OF EXTRAITS

The basis of the modern perfume consists in nearly all cases of one or several compounds (made by the composer, respectively the manufacturer of aromatic chemicals) to which sometimes also natural aromatics are added—seldom straight aromatics—in order to fixate and blend the perfume or give it nuance.

It is the task of the perfumer to make the proper selection of compounds offered in abundance by its manufacturers in order to create something that harmonizes with modern taste or a real novelty which can catch the interest of the buying public.

He must try to grasp the characteristic fragrance of the compound which he employs and to effectively back up his finished perfume with a harmonious and original name.

It is further of utmost importance that the shape of the bottle, the appearance of the label and box are in harmony with the fragrance and the name of the creation.

The concentration of the perfume, that is the ratio of compound to solvent (alcohol) does not altogether depend on the concentration of the compound, but is also determined by the type of odor used and by its users. Generally speaking, a perfume possessing a flowery note demands a different concentration from those perfumes being designated as "sultry," "balmy," "woody," etc. It may be said that in most cases, in countries which have a cool climate, weaker odors are more effective than in countries having a tropical climate.

Finally, the perfumer is confronted with a task of a technical nature. His perfumes must remain crystal clear at all times and must not even become cloudy or hazy at low temperature. Notwithstanding the simple method of filtration, new problems arise.

The tasks of the perfumer manufacturing lotions are the same as for mixing extricts. Here, too, the concentration of alcohol plays an important par'

Certain types of perfumes containing relatively easily soluble components as: f.i. Muguet, Rose, Lilac, show up very well in weak alcoholic lotions (45 to 55 per cent alcohol). Other compounds containing mainly aromatics

which are poorly soluble, f.i. terpenes, sesquiterpene-alcohols, etc., need higher concentrated alcohol (60 to 80 per cent) to dissolve in sufficient quantity.

To get a sufficiently strong end-product, one will have to dissolve 2 to 4 per cent of a perfume-composition of average strength. Using these quantities in low-grade alcohol only a part of them would be dissolved, the other part would be lost during filtration.

This is not only uneconomical (loss of substance) but would also result in most cases in a change of the fragrance.

The conscientious perfumer who not only has to consider the fact mentioned above but also the price calculation is put before a very difficult task trying to find the best proportions between perfume-essence, alcohol and water.

THE PERFUMING OF COSMETICS

The perfuming of skin-creams requires better taste, more experience and more experimental skill than the perfuming of alcoholic products which include hair-preparations, mouth-washes and face-lotions.

Let us suppose that the perfumer through his composer has at hand compositions fit to be used for the perfuming of creams; i.e., neither irritate the skin nor discolor the cream-body. Theoretically, all these compositions could be used for all creams. But the fragrance of the individual compositions is greatly influenced by the cream-body. This is caused not only by the indigenous odor of the cream-body but also by the various (physical) influences of the solvents contained in the cream and their reaction on the dissolved perfume composition.

The vehicle is always an emulsion, consisting of oil (fats, waxes, paraffin, etc.) and water as components. The various aromatic components of the perfume have a different solubility in these two parts of the vehicle.

Applying the cream to the skin, the aromatics are the more noticeable the less they are soluble in the vehicle, i.e., are retained by it. That is why in a cream with a high fat content (water in oil emulsion) the oil-soluble aromatics (f.i. terpenes, essential oils, ionones, benzyl-ethers, etc.) will be comparatively less noticeable than the water-soluble ones (f.i. phenylethylalcohol, vanillin, etc.). On the other hand, oil in water emulsions (vanishing creams) will make the oil-soluble components of a perfume more prominent than the water-soluble ones.

That is the reason that certain cream-perfumes show a different smell in a fatty skin cream than in a vanishing cream, which is especially noticeable when the cream is applied to the skin.

Therefore it should be understood that a composition which is to be used for perfuming a skin cream can only be tried out in that certain cream, at least as far as the smell is concerned. The smell-effect of a perfume-composition for skin-creams can neither be judged in a concentrated composition, in an alcoholic solution, nor in another cream-body.

The reaction of the aromatics in emulsions as mentioned above is the reason why the concentration of the perfume in the cream is of such major importance. The best smell effect can only be found through experiments. The following experience should serve as a help for finding the right proportion of the perfume:

The composer (manufacturer of aromatics) has, of course, proportioned the different components in his cream-perfume to result in the finest possible smell-effect. In a first-class composition, therefore, the predominance or repression of single components can only deteriorate the quality of the perfume.

A cream when applied will show up the full, unchanged smell-effect of a perfume composition so much better, if the different reaction of oil- and water-soluble aromatics is noticeable as little as possible. And this is the case with quantitatively weak perfuming. Very small amounts of aromatics are absorbed in water as well as in oil, but large quantities of perfume cause, through the different solubility of its components, not only the physical separation of the composition, but can even destroy the cream emulsion itself.

Even if the perfumer can count on a reliable manufacturer of aromatics—their composer—to make for him a cream perfume to satisfy the general demands made on such a product (to be neither skin-irritating nor discoloring) he still has to observe the effect of the composition in his special cream-body. Through special tests he can see already after a short time—even after a few hours or days—if and how the cream emulsion and the perfume will influence each other under normal conditions over a long period.

For perfuming of these cosmetics consisting of mineral and vegetal fats and oils the aromatics industries supply perfume-compounds soluble in these substances. How far the various perfumes are noticeable in the differently composed vehicles can only be determined by the perfumer through experiments.

Even if one does not have to consider the indigenous smell of first-class oils or fats—only those can be used here—there are still some big differences in smells of perfume-compounds used in various vehicles. One of the most important factors of this is mentioned below:

The genuine (vegetal, rarely animal) fats have a stronger fixating effect on most aromatics than mineral oils and fats. Therefore, in perfuming the first mentioned even volatile aromatics can be used, but generally qualitatively stronger aromatics or larger quantities of perfume are necessary than in mineral oils.

LIPSTICKS

The selection of a suitable perfume is especially difficult and requires finest taste. It is surprising to see that most ladies, when buying their lipstick, consider its perfume at least as important as its other qualities. Finding the right amount of the perfume and perhaps adding some nuanceurs to it, to make it better harmonize with the shade of the lipstick are further factors that have to be considered.

It is not our intention to deal extensively with the various problems confronting the perfumer when perfuming each cosmetic. We wanted only to show that the task of a perfumer (in the modern narrower sense) is large and responsible, demanding at the same time so much specialized knowledge and experience that the functions of the perfumer and composer can hardly be combined in the same person.

But we do not want to omit to emphasize that it is of greatest importance for the perfumer as well as for the composer to seek and enlarge between each other mutual contact and exchange of ideas in any possible way.

Packaging PORTFOLIO

ESME OF PARIS

ESME OF PARIS: Esmé of Paris' Snowman is a timely presentation. The little white snowman with red and black features holds, instead of the usual broomstick, a one dram bottle of "On Fifth Avenue" perfume.

MARIE EARLE: Marie Earle's new fragrance is "Ballerina." The perfume is imaginatively packaged in a gold-troughed bottle inside a white satin ballet slipper. The slipper rests in a white and gold box lined with royal blue satin, and secured with a gold lock.

MARIE EARLE

LA CROSS: La Cross names its new nail polish, "Naylon." Twelve fashion shades are presented in the new streamlined Naylon bottle, designed to prevent tipping and spilling. Its decorative brush top has a long tapering metal stem which lends ease to application.

LA CROSS

VICTORIA: "Vice Versa" is presented in Victoria's new line of perfume, toilet water, cologne, bath oil and sachet. The perfume illustrated is dramatically presented in a square-cut clear glass bottle, with a snug fitting gold cap which minimizes evaporation.

VICTORIA

DAGGETT & RAMSDELL

DAGGETT & RAMSDELL: The new fragrance, "Gay Manhattan," is launched by Daggett & Ramsdell in a unique container which serves as a perfume bottle and atomizer. Slight pressure on the little lever atop the golden sphere releases the perfume. The gold colored metal globe is packaged in a crimson and white box under a plastic cover.

HELENA RUBINSTEIN: Helena Rubinstein's "Silver Turret" lipstick is in time for holiday buying. A streamlined design fashions the case in sterling silver with dots of gold metal. When removed, the cap screws into the insert at the base of the miniature turret.

RICHARD HUDNUT: Richard Hudnut reintroduces Vogue, Gemey Concentrate, and RSVP in handsome new bottles and packages. Vogue appears in a square-cut crystal bottle with gold threaded stopper, boxed in white moire paper embossed in gold.. Gemey Concentrate comes in a facet-cut bottle and rests in a blue box with gold foil trim. RSVP is packaged as an invitation in an envelope-shaped bottle and satin-finished gold foil box.

HELENA RUBINSTEIN

RICHARD HUDNUT

FLAVORS

Butter Flavor Ingredients

An adequate imitation butter flavor requires components other than the α-dicarbonyls alone

MORRIS B. JACOBS, PH.D.*

IN a previous article the importance of the α-dicarbonyls such as diacetyl, acetylpropionyl, acetylbutyryl, acetylisobutyryl, acetylisovaleryl, acetylcaproyl, acetylisocaproyl, dipropionyl, propionylbutyryl, dibutyryl and analogous α-dicarbonyls as imitation butter flavor components was discussed. It was pointed out that the principal components comprising artificial butter flavors may be placed into the following categories:

(1) α-Dicarbonyls.
(2) Keto-alcohols and keto-aldehydes.
(3) Fatty acids.
(4) Flavor esters.
(5) Miscellaneous components.
(6) Solvents.

KETO-ALCOHOLS

The principal keto-alcohol suggested for use in butter flavors is *acetylmethylcarbinol,* $CH_3.CHOH.COCH_3$, also known as acetoin, dimethylketol, 3-hydroxy-2-butanone. Acetylmethylcarbinol is a slightly yellowish liquid at room temperature with a relatively pleasant odor but which in a highly purified state has very little odor. It has a density of 1.011, boils at 142 deg. C., melts at 15 deg. C. and has a refractive index of 1.4194 at 15 deg. C. Acetylmethylcarbinol is miscible with water and is freely soluble in alcohol. Acetoin is prepared by fermentation methods and is produced along with diacetyl in butter cultures by *Streptococcus citrovorus* and *S. paracitrovorus* from citric acid. While acetylmethylcarbinol, as such, has in all probability little flavor power, it is converted to diacetyl by oxidation. Since its boiling point is much higher than that of diacetyl namely 142 deg. C. as compared with 88 deg. C., acetylmethylcarbinol probably can act as a reservoir for the production of diacetyl. Thus aerating butter cultures results in an increase in diacetyl content. In the preparation of butter culture distillates, ferric chloride or other oxidizing agents are added to oxidize the acetylmethylcarbinol so that the resulting distillate contains more diacetyl.

Homologues of acetoin, namely the keto-alcohols *propioin,* $CH_3CH_2CH(OH)COCH_2CH_3$; *butyroin,* $C_3H_7CH(OH)COC_3H_7$, an oily liquid boiling in the range 180-190 deg. C.; *isovaleroin,* $C_4H_9CH(OH)COC_4H_9$, an oily liquid boiling at 153-155 deg. C. at 97 mm. mercury; and *isobutyroin,* $(CH_3)_2CH(OH)COCH(CH_3)_2$, an oil with a camphor-like odor boiling at 152-154 deg. C. are analogous compounds which may possibly be used to yield their diketo analogues.

KETO-ALDEHYDES

The principal keto-aldehyde which has been considered for possible use as an artificial butter flavor component is

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methylglyoxal, $CH_3CO.CHO$, a yellow, mobile liquid with a strong odor having a burnt quality. It boils at 72 deg. C. but because it polymerizes readily most preparations boil at higher temperatures. Homologues of methyglyoxal such as ethylglyoxal, isopropylglyoxal, isobutylglyoxal, and *sec*-butylglyoxal have been prepared but some have odors resembling caramel and others are suggestive of burning paper, thus reducing their value as butter flavor components.

FATTY ACIDS

It is well known that one of the principal differences between the composition of butterfat on the one hand and other fats and oils on the other is that butterfat contains a higher percentage of the lower molecular weight fatty acids. Thus the range of content of these acids in butterfat is butyric acid 2.4-3.5 per cent, caproic acid 1.1-1.9 per cent, caprylic acid 0.7-1.6 per cent and capric acid 1.8-3.6 per cent. While in good butter the amount of such fatty acids in the free state, as opposed to their function of constituents of the triglyceride fat molecules, is very small, that small amount undoubtedly contributes to the characteristic butter flavor.

Butyric acid, $CH_3CH_2CH_2COOH$, ethylacetic acid is an oily, colorless liquid with an unpleasant sharp, rancid odor characteristic of rancid butter. The diluted acid has a sweet, sour burning taste. It has a density of 0.959-0.964, boils at 162-163.5 deg. C., and has a refractive index of 1.3991. It is soluble in water and is miscible with alcohol. This fatty acid is produced on a commercial scale by the fermentation of carbohydrates. It is used not only as an ingredient of butter ester flavor mixtures but also in the formulation of other flavors and for the manufacture of many common esters. There are several imitation butter flavor formulations in which butyric acid is the principal component.

Of lesser importance as fatty acid butter flavor components are caproic acid, caprylic acid and capric acid. *Caproic acid*, $CH_3(CH_2)_4COOH$, hexanoic acid, is a slightly yellow to colorless oily liquid with an unpleasant sweat-like odor which upon great dilution resembles coconut. It has a soapy, oily-sweet taste and a brandy flavor when diluted. Caproic acid has a specific gravity of 0.924-0.929; it boils in the range 202-205 deg. C.; and it has a refractive index of 1.4164. It is soluble in alcohol and is only slightly soluble in water. This acid may be obtained along with butyric acid by fermentation processes.

Caprylic acid, $CH_3(CH_2)_6COOH$, octanoic acid is an oily, colorless liquid with an unpleasant odor and a bitter, burning, rancid taste. It, too, on dilution has a flavor resembling brandy. It has a density of 0.910, melts at 16 deg. C., boils at 237 deg. C., and has a refractive index of 1.4285 at 20 deg. C. Caprylic acid is soluble in alcohol and only very slightly soluble in cold water but one part will dissolve in about 400 parts of boiling water.

Capric acid, $CH_3(CH_2)_8COOH$, decanoic acid, is a crystalline solid, with an unpleasant odor, a buttery flavor, and a sweet oily taste. On dilution its odor resembles coconut. Capric acid melts at 31.5 deg. C., has a density of 0.889, boils at 268-270 deg. C. and has a refractive index of 1.4285 at 40 deg. C.

In addition to their use in imitation butter flavors as minor components, these fat acids are also used in coconut, brandy, and whisky flavors, and for the manufacture of esters.

While *lactic acid* is not in the same category as the fat acids mentioned above, it may possibly be incorporated into artificial butter flavors for it is an end product of the fermentation such as the fermentation of lactose by *Streptococcus lactis*. Lactic acid, $CH_3CH(OH)COOH$, hydroxypropionic acid, is a colorless, sirupy hygroscopic liquid with a sour taste and practically no odor. It has a density of 1.249 and a melting point of about 16-18 deg. C. The commercial product consists of a mixture of lactic acid and lactic anhydride of which about 85-90 per cent is lactic acid. The specific gravity is about 1.206.

FLAVOR ESTERS

Only a few of the more than 200 esters suggested for uses in the preparation of flavors are actually used in the formulation of butter flavors. These are ethyl butyrate, isoamyl butyrate, butyl butyrate, butyl acetate and ethyl pelargonate. In addition to the aforementioned esters isobutyl acetate, isoamyl acetate, ethyl formate and ethyl enanthate have been suggested as minor components of butter flavor compositions.

MISCELLANEOUS COMPONENTS

There are a number of miscellaneous components which have been used as modifiers, intensifiers and fixatives in the preparation of butter flavors. Those which may be mentioned are caproaldehyde, coumarin and vanillin. These substances are used only in very small quantities of the order of one part in 1000 in such compositions. Another component which might more properly be classed with the esters but is mentioned here, because it is not a simple ester, is butyl butyryl lactate. This component is generally used in the ratio of one part to five or ten parts of diacetyl.

Many years ago it was attempted to simulate the properties of butterfat by the incorporation of tributyrin. This type of adulteration was relatively easily detected and proved to be of little value because of the intensely bitter taste of this compound. Tributyrin, $(C_3H_7COO)_3C_3H_5$, glyceryl tributyrate, butyrin, is a colorless, oily liquid with, as mentioned, a bitter taste. It has a specific gravity of 1.032, a refractive index of 1.4358 at 20 deg. C. and boils around about 300 deg. C. Tributyrin is insoluble in water and is very soluble in alcohol.

SOLVENTS

Among the solvents commonly employed in the preparation of butter flavors are triacetin, ethyl alcohol, and vegetable oil such as corn oil. Triacetin, $(CH_3COO)C_3H_5$, glyceryl triacetate, is a colorless, odorless, oily liquid. It has a density of 1.156-1.161, boils at 258-259 deg. C. and has a refractive index of 1.4306 at 20 deg. C. Triacetin acts as a fixative and has neutral flavoring properties but hydrolyzes at times to yield some acetic acid. This may be advantageous in certain instances and disadvantageous in other instances. The use of 2,3-butylene glycol, $CH_3CHOH.CHOHCH_3$, which is also a product of the fermentations mentioned above, and of propylene glycol may be considered.

In a subsequent article it is hoped to give specific examples of formulations using the ingredients described above.

Flavored Notes

Stress has previously been placed in this column on the care to be exercised in considering compatibilities in the use of various flavoring components. To cite another example it is preferable to use coumarin instead of vanillin in flavoring tablets containing thiamine because vanillin acts as reducing agent.

* * *

While we are mentioning compatibilities it does not harm to point out that many of the FD&C colors are relatively easily reduced. Hence when flavors which are reducing agents are used in conjunction with such dyes, not only will color be lost but also some flavor will be lost.

* * *

A maple flavor which had marked similarity to natural maple flavor was synthesized by the fusion of α-aminobutyric acid and glucose.

* * *

In the United States the name cinnamon is recognized as covering both cassia and cinnamon and for most practical flavoring purposes cassia may be considered equivalent to cinnamon. Actually, however, cinnamon is a more delicate-tasting flavoring agent.

* * *

I have received another query concerning modifiers for coconut flavors. Some of the compounds previously mentioned are not produced on a commercial scale and consequently have to be synthesized either by the manufacturer of the flavor or to order.—*M. B. J.*

Purifying Cane Sugar

A new method of purifying cane sugar and other products, known as the Percofil process, was described recently at a meeting of the British Society of Chemical Industry in London. Developed by Leonard Wickenden, consulting chemist for The Mathieson Alkali Works, the process makes it possible to use activated carbon in the conventional gravity type filter. It is stated that this development reduces costs and improves the purity of the product.

According to Mr. Wickenden, the Percofil mixture is produced by suspending activated carbon on the surface of the inert carbonaceous carrier. This mixture is then used in the gravity type filter otherwise used with bonchar, and procedure follows along the lines of general bonchar practice.

The new method of filtration may be used alone, or in conjunction with bonchar filtration. In the latter case, the two types of filtration are supplementary, each type of carbon being particularly effective for certain impurities in the raw sugar.

Passing the sugar down through the Percofil mixture, as the increasingly pure liquor comes in contact with the cleaner carbon in the lower layers, gives the effect of a greater number of "counter-current" filtrations, typical of two- or three-stage systems.

The process is also said to be economical with respect to consumption of activated carbon. To effect the desired color removal, this filtration requires only about 50 per cent of the amount of activated carbon needed for a single filtration with finely divided carbon.

SOAPS

Lawrence H. Flett* Albert F. Guiterast
Robert C. Haring* Rebecca L. Shapirot

pH AFFECTS Bactericidal ACTION OF Detergent

The effect of pH on the rate of killing of staphylococcus aureus by an anionic surface-active agent is discussed in this article

It is the editorial policy of THE AMERICAN PERFUMER to use chemical names for all ingredients, and/or products, but some materials cannot be adequately described or identified except by the use of trade names adopted by the manufacturer. The quality and composition of the products designated by trade names are of course the responsibility of the manufacturer.

THE antiseptic value of soap has long been recognized and a great deal of work has been done on the bactericidal properties of the cationic detergents. Relatively little has been done on the bactericidal properties of the anionic detergents other than soap. Certain of the anionic detergents, in contradistinction to soap, are completely stable in acid and alkaline solutions. It is possible therefore to use these anionic detergents over a wide range of hydrogen ion concentration. The present article deals with a study of the changes in bactericidal action of one of the stable anionic detergents at hydrogen ion concentrations ranging from pH 2 to pH 12. Since Valko (1946) and Hotchkiss (1946) have very ably covered the literature on this subject to date, we shall eliminate further references. Cowles (1938), Birkeland and Steinhaus (1939), Baker *et al.* (1940, 1941) and Dubos (1942) found that anionic agents were more effective against Gram-positive than against Gram-negative organisms. Gershenfeld and Perlstein (1941), Gershenfeld and Milanick (1941), and Scales and Kemp (1941) reported that the bactericidal power of anionic agents increases markedly with increasing acidity, and that at pH 4 the anionic agents investigated were also effective against Gram-negative organism. Flett (1945) reported that the bactericidal power of alkyl-aryl sodium sulfonates against *Staphylococcus aureus* increases very markedly with decreasing pH.

The methods used in all of the above bactericidal studies were essentially modifications of the phenol coefficient method, where the maximum dilution of the agent which killed the test organisms in a specified time was determined. As Hotchkiss (1946) points out, however, this method affords no insight into the mechanism of the bactericidal action. This investigation is a study of the effect of pH on the rate of killing of *Staphylococcus aureus* by an anionic surface active agent as determined by the number of surviving organisms at various time intervals.

EXPERIMENTAL

The anionic surface active agent used consists of a mixture containing about 40 per cent of alkyl-aryl sodium sulfonates and about 60 per cent inorganic salts, principally sodium sulfate. This mixture is the one manufactured

*National Aniline Division, Allied Chemical & Dye Corp., New York, N. Y.
† Foster D. Snell, Inc., Brooklyn, N. Y.

TABLE I

Bactericidal Activity against Staphylococcus aureus of Nacconol NR (1:500) in the acid range
(The figures show total bacterial count in organisms per m.l. as determined by plate counts made at the dilutions indicated.)

Dilution plated	Exposure Time	pH 2.0	pH 3.8	pH 5.1	pH 6.2	pH 7.0
			With Nacconol NR (1:500)			
$1:10^6$	5 min.	0	0	1,000,000	50,000,000	140,000,000
$1:10^5$	10 min.	0	0	200,000	1,500,000	6,000,000
$1:10^4$	1 hr.	0	0	0	40,000	600,000
$1:10^3$	8 hr.	0	0	0	0	15,000
$1:10^2$	24 hr.	0	0	0	0	600
1:10	48 hr.	0	0	0	0	0
			Without Nacconol NR (Control)			
		*				
$1:10^8$	5 min.	1,000,000	17,000,000,000	9,000,000,000	3,000,000,000	30,000,000,000
$1:10^8$	10 min.	100,000	17,000,000,000	30,000,000,000	18,000,000,000	16,000,000,000
$1:10^8$	1 hr.	10,000	10,000,000,000	9,000,000,000	10,000,000,000	13,000,000,000
$1:10^8$	8 hr.	0	8,000,000,000	46,000,000,000	70,000,000,000+	70,000,000,000+
$1:10^8$	24 hr.	0	12,000,000,000	56,000,000,000	70,000,000,000+	70,000,000,000+
$1:10^8$	48 hr.	0	15,000,000,000	30,000,000,000	70,000,000,000+	70,000,000,000+

* pH 2 without Nacconol NR was plated at decreasing dilutions for each time interval as follows:

5 min. $1:10^6$ — 1 hr. $1:10^4$ — 24 hrs. $1:10^2$
10 min. $1:10^5$ — 8 hrs. $1:10^3$ — 48 hrs. 1:10

and sold under the trademark Nacconol NR by National Aniline Division, Allied Chemical & Dye Corp. It was tested in a dilution of 1:500 against *Staphylococcus aureus* (F.D.A. strain 209) at 37 deg. C. at various hydrogen ion concentrations from pH 2 to 12 inclusive.

ADJUSTMENT OF pH

The use of different buffers for different pH values would introduce an undesirable variable. It was therefore decided to use only mixtures of phosphoric acid and trisodium phosphate in order to cover the entire pH range. Buffers were prepared with and without Nacconol NR by using suitable proportions of tenth-molar solutions of phosphoric acid and trisodium phosphate in distilled water as shown below. The pH was determined with a Beckman pH Meter, Laboratory Model G. The Nacconol NR did not change the reading at any pH within the limits of accuracy of the instrument.

Solution A. 9.8 g. H_3PO_4 (anhydrous) per liter.
Solution A[1]. 9.8 g. H_3PO_4 (anhydrous)—2 g. Nacconol NR per liter.
Solution B. 18.4 g. Na_3PO_4 (anhydrous) per liter.
Solution B[1]. 18.4 g. Na_3PO_4 (anhydrous)—2 g. Nacconol NR per liter.

pH (sought)	Solution A or A[1] in m.l.	Solution B or B[1] in m.l.	pH (found)
2	8.0	2.0	2.0
4	5.2	4.8	3.8
5	5.1	4.9	5.1
6	4.3	5.7	6.2
7	3.2	6.8	7.0
8	2.4	7.6	7.8
9	2.1	7.9	8.8
10	1.9	8.1	9.9
12	0.0	10.0	11.9

The same pH's were obtained, within experimental error, when all solutions were autoclaved at 15 lbs. pressure for 40 minutes and when 10 per cent of a 24-hour culture of *Staphylococcus aureus* was added to all solutions. Thus it was shown that neither the Nacconol NR (1:500) nor autoclaving nor admixture with 10 per cent of the culture changed the various pH's obtained to any significant degree. All pH readings were taken to the second decimal and then rounded off to the first decimal.

BACTERIOLOGICAL PROCEDURE

0.5 m.l. of a 24-hour culture of *Staphylococcus aureus* containing 500 x 10^9 organisms per m.l. was added to 5.0 m.l. of each of the solutions buffered at the various pH values with and without the Nacconol NR. All solutions had been previously brought to 37 deg. C. by placing in

TABLE II

Bactericidal Activity against Staphylococcus aureus of Nacconol NR (1:500) in the alkaline range
(The figures show total bacterial count in organisms per m.l. as determined by plate counts made at the dilutions indicated.)

Dilution plated	Exposure Time	pH 7.0	pH 7.8	pH 8.8	pH 9.9	pH 11.9
			With Nacconol NR (1:500)			
$1:10^6$	5 min.	140,000,000	180,000,000	160,000,000	150,000,000	7,000,000
$1:10^5$	10 min.	6,000,000	16,000,000	22,000,000	18,000,000	0
$1:10^4$	1 hr.	600,000	3,500,000	2,400,000	4,700,000	0
$1:10^3$	8 hr.	15,000	240,000	240,000	320,000	0
$1:10^2$	24 hr.	600	300	100	70	0
1:10	48 hr.	0	0	0	0	0
			Without Nacconol (Control)			
			*			*
$1:10^8$	5 min.	30,000,000,000	17,000,000,000	27,000,000,000	12,000,000,000	600,000,000
$1:10^8$	10 min.	16,000,000,000	12,000,000,000	9,000,000,000	10,000,000,000	40,000,000
$1:10^8$	1 hr.	13,000,000,000	17,000,000,000	8,000,000,000	9,000,000,000	400,000
$1:10^8$	8 hr.	70,000,000,000+	70,000,000,000+	70,000,000,000+	40,000,000,000	4,000
$1:10^8$	24 hr.	70,000,000,000+	70,000,000,000+	70,000,000,000+	50,000,000,000	300
$1:10^8$	48 hr.	70,000,000,000+	70,000,000,000+	70,000,000,000+	70,000,000,000+	0

* pH 12 without Nacconol NR was plated at decreasing dilutions for each time interval as follows:

5 min. $1:10^8$ — 1 hr. $1:10^4$ — 24 hrs. $1:10^2$
10 min. $1:10^7$ — 8 hrs. $1:10^3$ — 48 hrs. 1:10

a water bath and this temperature was maintained for the entire duration of the test. Bacterial counts were made on all solutions after 5 min., 10 min., 1 hour, 8 hours, 24 hours and 48 hours.

CHECK FOR POSSIBLE BACTERIOSTASIS

In order to make certain that the plate counts are indicative of the bactericidal rather than bacteriostatic action of Nacconol NR, four serial dilutions were plated at the five and ten-minute intervals taken at the neutral point. The decrease in plate counts from one dilution to the next was approximately ten fold, which is what would be expected in the absence of bacteriostasis.

RESULTS

The results are shown in the tables. At the extremes of acidity and alkalinity, the culture dies very rapidly, but in the range from pH 3.8 to 9.9 inclusive it is very viable, as indicated by bacterial counts ranging from 3×10^9 to 7×10^9 organisms per m.l. at all times during the test. This compares very favorably with the original count on the culture, which was 500×10^9 before dilution with the various buffers.

Nacconol NR (1:500) kills *Staphylococcus aureus* within five minutes at pH 2.0 and 3.8 and within ten minutes at pH 11.9. At all other pH values tested, 99 per cent or more of the organisms are killed within five minutes and sterility is attained in every case within 48 hours or less. Nacconol NR is more effective in acid than in alkaline solutions.

It should be noted that all control counts except pH 2 and pH 11.9 were made at the extremely high dilution of $1:10^8$, whereas the Nacconol counts were made at dilutions ranging from $1:10^6$ down to 1:10. Therefore many of the counts to which a definite value is assigned, such as the count of one million organisms which is reported at pH 5.1 for the five-minute interval in contact with Nacconol, actually represent only one organism on the plate. If all counts had been standardized at dilutions of $1:10^8$, many, if not all, of the lower counts would have undoubtedly been zero. Under such conditions the results would indicate an even higher bactericidal activity than that shown.

SUMMARY

Nacconol NR in a concentration of 1:500 is bactericidal in the range from pH 2.0 to pH 11.9 when tested against *Staphylococcus aureus* at 37 deg. C. It kills 99 per cent or more of the organisms within five minutes and kills 100 per cent of the organisms within 48 hours or less.

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Fats Purifications

A new process has been developed for refining, decolorizing and deodorizing fats and oils in a continuous operation by the M. W. Kellogg Co., under the trade name Solexol. Engineering is now under way by the Kellogg Co. for the construction of several units utilizing this process by manufacturers of soaps. The process is most valuable to the soap industry for its ability to decolorize and upgrade tallows and greases to yield snow white products.

One of the main advantages of the new process from the point of accelerated operation and quality production is the fact that it is continuous, permitting large volume refining of ingredients for soap, as against the batch method.

The company states that color bodies are easily, completely and inexpensively removed by the new process. The fact that the separation of the various oils is done physically, eliminates any side reactions caused by the use of chemicals. With the absence of caustic treatment, clay bleaching and Fuller's Earth treatment, as currently employed in such refining, the resulting soap fats are unimpaired, retaining their desirable natural qualities.

The process separates the "free" fatty acids which tallow contains. It thus offers a double economic gain to the soap oil refiners. These acids can be used directly for soap manufacture, or they may be sold by the processor to other industries.

Various other advantages of the process to the soap and soap oil industries have been indicated in research and their full commercial value remains to be determined in development work which is now continuing.

Annual Soap Assn. Meeting

The Association of American Soap & Glycerine Producers, Inc., has announced its Twentieth Annual Meeting, to be held at the Waldorf-Astoria Hotel, New York, N. Y., Jan. 22. The program will be from 11:30 to 4.

Hotel and travel accommodations should be arranged for at this time. New York is crowded. Those who wish to attend and cannot secure reservations should get in touch with the Association.

Philippine Copra Exports

October statistics covering copra exports from the Philippines show that since January 1, 1946, exports to the United States aggregated 307,386 long tons; to Canada and Europe, 120,192 tons or a grand total up to the end of October of 427,578 long tons which compares with only 5979 long tons exported to all destinations from the Philippines for the entire year 1945. The exports for the month of October totaled 118,307 long tons, including 49,926 tons to the United States and 68,381 tons to Europe. Of the total cleared for the United States, 24,041 tons were destined to Pacific Coast ports and 25,885 tons to Atlantic and Gulf ports.

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Shampoo Formulation

This article outlines the steps to be taken in formulation of shampoos and the utilization agents used in conjunction with base materials

J. C. HARRIS*

THE best means for illustrating the utilization of the various ingredients is to describe several types of shampoo.

Synthetic Surface-Active Agents—A variety of shampoo compositions utilizing as a base either *Santomerse D* or *Santomerse #3* or combinations of them have been developed. The essential differences between the two products lies in their chemical composition. *Santomerse D* is essentially decyl benzene sodium sulfonate while *Santomerse #3* comprises the equivalent of dodecyl benzene sodium sulfonate. Both are 99+ per cent active agent, i.e., free from sodium sulfate, sodium chloride or other alcohol insoluble salt. The "*D*" grade is considerably more soluble than "*#3*," solutions of "*D*" are less viscous, but "*D*" has slightly less detergent or cleansing value than #3.

Liquid type formulations

Material	1	2	3	4
Santomerse D	9	1.5	..	12.5
Santomerse #3	6	5.0	10	12.5
Tetra potassium pyrophosphate	2	..	..	..
Glycerin	..	5.0	5	..
Sodium alginate	..	0.5	1	..
Sulfonated oil	..	..	..	5.0
Carbitol	..	..	..	2.5
Alcohol	..	..	1	..

To the foregoing formulations should be added an adequate perfume oil and color may also be added if desired.

Conditioning agents may be used to prevent drying of the scalp and embrittlement of the hair and may be used in the following formulation, which is designed for stability at low temperature:

Santomerse D	15 per cent		20 per cent
Santomerse #3	5 per cent	or	....
Conditioner	1-4 per cent		1-4 per cent
Perfume oil	0.25 per cent		0.5 per cent

Conditioners and amounts recommended are:

Carbowax 1500—4 per cent
Carbowax 4000—4 per cent
G1441—2 per cent
Diglycol laurate—1 per cent
Diglycol oleate—1 per cent
Ethyl oleate—4 per cent
Ocenol—1 per cent

All of the foregoing formulations are in per cent by weight, sufficient water being added to make 100 per cent (softened water is preferred).

A soap-synthetic agent shampoo of gel type may be prepared by first making Part A then combining with Santomerse and water as in Part B, slightly cooling, then adding the perfume oil:

Part A	Oleic acid	37 per cent
	Cocoanut fatty acids	27 per cent
	Triethanolamine	36 per cent
	Santomerse #3 Paste	25 per cent
	Part A	25 per cent
Part B	Water	48.5 per cent
	Perfume oil	1.5 per cent

This composition may be diluted with water and carbitol to yield a satisfactory liquid shampoo.

SOAP-SYNTHETIC TYPE SHAMPOO

Shampoos with improved resistance to hard water, increased rinsability and increased lather may be formulated by combining *Santomerse D* with liquid or gel-type soap bases, using 10 per cent *Santomerse D* with 90 per cent soap (dry basis). The composition may then be diluted to the desired solution concentration. Tetrapotassium pyrophosphate amounting to from 0.25 to 1.0 per cent (solution basis) should adequately clarify and stabilize the formulation.

EVALUATION

The necessity for determining the acceptability of a shampoo is apparent, but may have several arbitrary subdivisions, such as follows:

1. Control of product.
2. Development of product.
3. Consumer testing.

1. *Control of Product.* It has previously been pointed out in some detail that the product must meet certain specifications to be satisfactory in the field to assure a salable

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* Group leader in charge of detergent evaluation, Monsanto Chemical Co., Central Research Department, Dayton, Ohio.

This article is continued from the November issue of THE AMERICAN PERFUMER.

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product. Certain minimum or maximum specifications should, therefore be set up, both for raw materials and finished product. These will be sufficiently extensive to assure quality without being economically impractical to enforce. No attempt will be made to outline any specifications or tests, since quality control will vary with the product.

2. *Development of Product.* In attempting to develop a shampoo it is obvious that the agent chosen must cleanse the hair and scalp. Assurance must be had that the material is neither irritating nor toxic. Dependent upon the nature of the material chosen, decisions will be reached as to whether or not a lathering or latherless product will be produced, what the physical form will be (e.g., gel, solution, etc.), its stability toward hard water, and its value comparative with some arbitrary standard.

All of the foregoing qualities must be ascertained, preferably by tests which are reproducible and as closely representative of actual practice as possible. For example, certain laboratory tests may be set up which will serve creditably to evaluate individual factors such as hard water stability, and lather. These may be made comparatively against some material which is recognized as possessing desirable characteristics under practical use conditions.

Having been assured that a material meets certain minimum requirements, the problem then is one of enhancing a potentially salable product. Since there apparently is no substitute for actual trial, this would be both the initial and final test of the shampoo.

Hard Water Stability—Effective cleansing in hard water is hard to attain, and to ascertain how well a potential cleansing agent will react under such conditions, the following laboratory test will prove useful in screening out those less suitable.

Method—Prepare 1 per cent solutions of the detergent and of calcium chloride by dissolving 1.0 g. of detergent and 1.16 g. $CaCl_2$-$2H_2O$ separately in water and make up to 100 ml.

Transfer 10 ml. of the detergent solution to a 50 ml. Erlenmeyer flask. Add the calcium chloride solution from a calibrated pipette or burette either until 10 ml. has been added, until foaming has ceased (if the detergent foams) or until dropwise addition causes no further precipitation. The volume of calcium chloride solution required may then be used as an index of suitability, the greater the volume added, the greater the hard water tolerance. The test may be varied to correspond to the temperatures used in cleaning, or arbitrarily be made at the boil.

Lather—Surface-active agents used for lathering shampoo should do so profusely, and the lather so produced should be sufficiently stable that it will not fall in the time between application and the rinsing operation. It has been noted that though many synthetics foam voluminously in the absence of soil, in shampoo use the lather will drop when first applied to the hair and scalp, and that the second application will then again foam voluminously. Though this might appear a disadvantage, it actually can be used as an indication of effective cleansing.

From the foregoing discussion it is apparent that a test for this purpose should measure the volume and stability of lather under conditions approaching those in actual use as possible. Many papers have been published on lather measurement, and it is probable that some one of these methods could be used more satisfactorily than another for the laboratory evaluation as specifically applied to shampoos.

Our own method of evaluation is applied with the object of ascertaining effectiveness in low concentrations of agent. This is obviously not the best procedure, but nevertheless serves again as a screening test. There is furthermore admittedly poor correlation between laboratory and practice because of absence of soil, but the method nevertheless is useful in determining relative volumes of lather, its stability, and permits direct comparisons between different agents. The apparatus used is that devised by Ross and Miles.[9]

APPARATUS

Apparatus—Level cylinder so that drops fall vertically into center of liquid at bottom of cylinder.

SOLUTION PREPARATION

1. Dissolve sample in distilled water at double the concentration desired by bringing up to the boil then cooling to 25 deg. C.
2. Make back to weight with distilled water for loss by evaporation.
3. Dilute to correct concentration by using water at 25 deg. C. of double the hardness or strength finally required.

TEST

1. Start circulation pump on column to maintain at 25 deg. C.
2. Rinse cylinder walls with distilled water and let drain 10 minutes and then close stopcock.
3. Age solution for 10 minutes in constant temperature bath at 25 deg. C.
4. Wet down walls of cylinder with 50 ml. of test solution by washing walls in circular motion with 50 ml. pipette of solution.

Monsanto method for testing the lather volume and stability of a shampoo

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5. Immediately transfer 20 ml. of test solution to tipped pipette. Insert in holder in vertical position to base and open stopcock.
6. Record lather height in centimeters, at once, and in 5 minutes.
7. Drain cylinder, rinse with distilled water and permit to drain for 10 minutes.
8. Repeat steps 4 through 7 for next sample making one determination for each sample.

3. *Consumer Testing.* Perhaps the most successful way for testing a shampoo, once stability and manufacturing characteristics are known, or perhaps even before these are determined, is to have available several human "guinea pigs," the larger the number the better. In the initial stages of investigation the formulation may be tested by persons in one's own organization, of both sexes but especially of the fairer sex, since difficulties most often show up with their greater abundance of hair. Once a suitable preparation has been developed, persons outside the organization may be then sampled. Perhaps the most satisfactory method is to have a reliable beauty parlor operator test the shampoo on several heads, and either by direct comparison with some given shampoo, or based upon the operator's experience, a valuable evaluation can be attained.

Another, generally less satisfactory procedure is to sample the personnel of some office. This is less satisfactory than the previous method, first because a relatively large number of persons must be contacted in order to get a satisfactory cross section of opinion and a sufficient number of returns, and secondly, because of the time lag between introduction and testing and time consumed in follow-up. Furthermore, unless the product is overwhelmingly superior or inferior, consumer tests may prove disappointing unless a sufficiently large number of people are sampled, the questionnaire properly constructed, and the analysis of results made statistically. The more successful consumer tests are made by advertising agencies which maintain statistical and consumer survey departments especially for this purpose.

SUMMARY

Shampoo formulation offers many difficulties because of the variety of forms a shampoo may take, the multitude of materials which may be used, and the water conditions which are encountered. Several methods for classification are mentioned and six requirements are discussed. Addition agents are suggested and their specific uses outlined and described. A number of types of formulations involving the use of the addition agent are given. The evaluation of a shampoo is described as to control of product, product development and consumer testing.

[9] Ross, John, and Miles, G. D., "An Apparatus for Comparison of Foaming Properties of Soaps and Detergents," Oil and Soap, Vol. 18, pp. 99-102 (1941).

Potash Soap Activities

The program of the First Annual Meeting of the newly formed Potash Soap Association, to be held Jan. 14, Hotel Cleveland, Cleveland, Ohio, promises to be a very interesting one. While some of the speakers are still tentative, the schedule is taking shape as we go to press.

There will be a raw materials and supplies symposium, dealing with the supply, demand and price outlook of fats and oils, caustic potash, steel drums, glass bottles, tin cans, cartons and alkaline salts. Uniform Cost Accounting as an Aid to Business Management will be discussed by Thomas W. Howard, manager, Department of Manufacture, Chamber of Commerce of the United States. R. M. Walsh, U. S. Bureau of Agricultural Economics, will talk on How to Forecast Fat and Oil Supplies from Current Crop Reports. The Honorable Estes Kefauver, under the heading of Government Relations, will talk on What Congress and the Federal Agencies Have Done and Can Do to Help Small Business. There will be an exchange of technical information under Benefits to be Gained by Potash Soap Manufacturers through Exchange of Technological Information.

An informal get-together, held at the Roosevelt Hotel, New York, N. Y., Dec. 3, Herbert Kranich, president, and Andrew Federline, secretary-manager, presiding, was for the purpose of discussing matters pertinent to the potash soap industry. An important decision was made in voting in favor of bringing out a book on the potash soap industry. It is anticipated that such a book would take some twelve to eighteen months to compile. In addition, a technical committee is to consider moves in the direction of product, manufacturing and packaging research.

If the current coal strike results in a freight embargo, it was decided to appeal for favorable consideration in the in bound movement of supplies and the out bound movement of finished products pertaining to potash soaps. In analyzing the current raw materials situation, it was agreed that price trends are firm, availability tight (some items are unobtainable), and inventories limited.

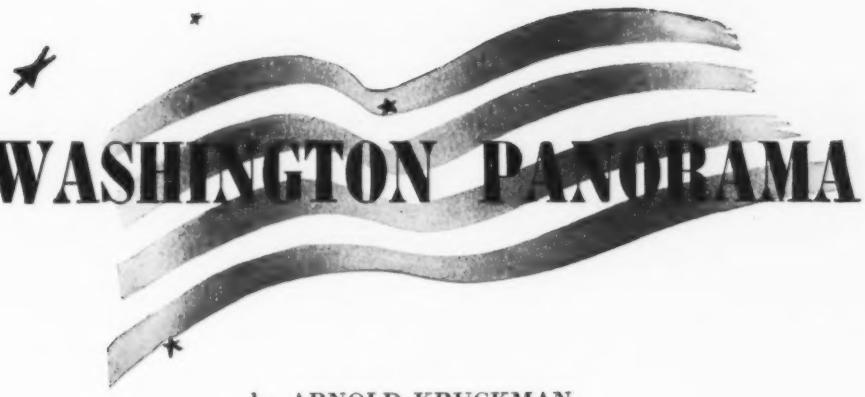
Herbert Kranich has been elected president of the newly formed Potash Soap Association. This association is made up of manufacturers of liquid, soft and paste soaps, which use potash as a saponifying agent. Associate members are suppliers of raw materials and containers used by the industry.

Other officers are: Eastern Vice-President, Leonard J. Oppenheimer; Western Vice-President, F. J. Pollnow, Jr.; Treasurer, Charles B. Solly; and Secretary-Manager, Andrew P. Federline. Mr. Federline was formerly assistant manager of the Association of American Soap & Glycerine Producers, Inc.

The Board of Directors is composed of: President, Vice-Presidents and Treasurer, J. L. Brenn, Leslie Webb, A. Roy Allison, Melvin Fuld, M. J. Murphy, Charles G. Gwinner, Dudley J. Bachrach and J. H. Zucker. The Executive Committee consists of Herbert Kranich, Leonard Oppenheimer, F. J. Pollnow, Jr., Charles Gwinner and M. J. Murphy. The Finance Committee is headed by Charles Solly, and includes Herbert Kranich, Melvin Fuld, and J. H. Zucker.

The Program Committee, with Herbert Kranich as chairman, consists of Dudley J. Bachrach, A. Roy Allison, F. J. Pollnow, Jr., Leonard J. Oppenheimer, J. H. Zucker, Carl E. Schaad, V. W. Haag, Sr., R. B. Hillyard, H. J. Brownstein and L. H. Gerson. J. L. Breen is chairman of the Membership Committee. Other members are: Charles Solly, Melvin Fuld, R. B. Hillyard, F. J. Pollnow, Jr., Leslie Webb, J. Walter Straub, Emery Emerson, L. Hockwald and J. R. Walsh.

The address of the association is: Office suite 216, Hotel St. George, Brooklyn, N. Y. Telephone Main 4-5000.



by ARNOLD KRUCKMAN

AFTER CPA, OPA, NHA, and other teetering war agencies have been amalgamated (imminent, as this is written), the new blend will continue to exercise the war powers until the war powers are repealed. But even if the war powers are repealed, there are said to be enough powers in the NHA to impose almost any kind of control on the economy of the nation. It is wise for business people everywhere to bear in mind that these latent powers exist, and can be exercised. Although restrictions on fats and oils were cancelled late in October, the Department of Agriculture reports the supplies are still low, and that no improvement is expected until well into 1947.

TRADE AGREEMENT NEGOTIATIONS

The State Department has announced the American Chemical Society has offered $25,000 to the United Nations as a gift to pay the expenses in this country of foreign chemists and chemical engineers who wish to come here to make studies. It also announced that trade-agreement negotiations have been initiated with Australia, Belgium, Brazil, Canada, Chile, China, Cuba, Czechoslovakia, France, India, Lebanon, Luxembourg, Netherlands, New Zealand, Norway, South Africa, the Soviets, and the United Kingdom, all of which will include imports of materials and products of interest to the cosmetics, toiletries, perfumes, and flavors industries. Hearings and negotiations are expected to reach a climax next Spring. The Office of Technical Services of the Department of Commerce urges that those interested send more experts to Germany to investigate products and processes connected with such businesses as the chemicals and materials which enter into the products of your industry. It suggests that the signing of a peace treaty will eventually close such investigations. Particular stress is laid on the desirability of further investigation of essential oils and related products.

INDUSTRIAL ALCOHOL SUPPLY

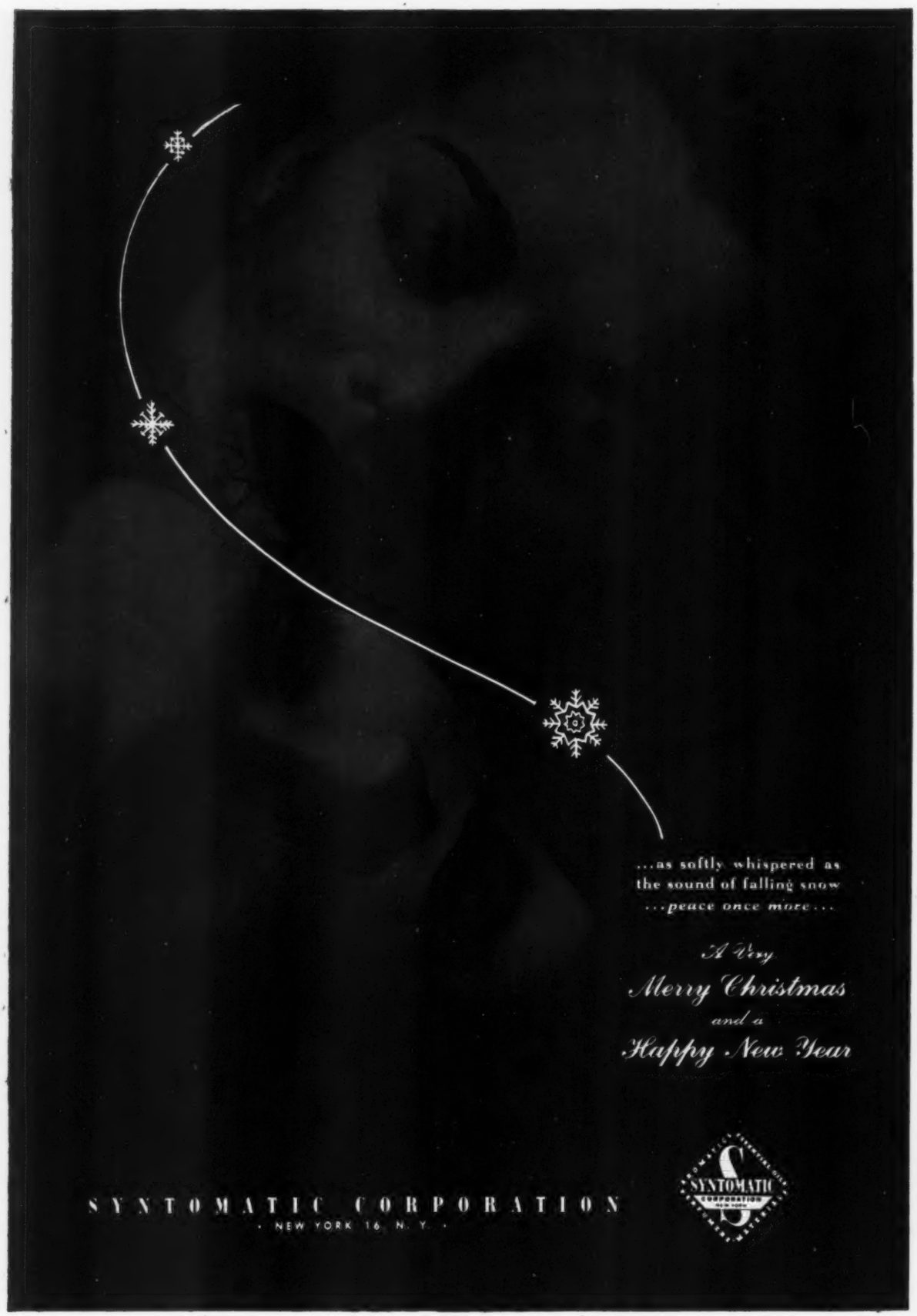
The CPA reports there should be no difficulty in meeting the needs of all industries for industrial alcohol. Manufacturers are providing 35 per cent from their own production; the balance is drawn from RFC stockpile. There is now available over 20,000,000 gallons blackstrap molasses to make the alcohol. More is expected to make the industrial alcohol supply easier when blackstrap molasses comes from Cuba in February. No more sugar is promised to American industrial users until the 1947 crop is available in Cuba. All controls were lifted on imports of lead on November 18, but CPA warned the supply will continue to be scarce for some time to come. The restrictions on the use of lead in this country are not affected by the removal of import controls.

Output in American mines has steadily decreased this year. The average total output was less than 904 tons per day. Mine and mill labor is reported by the Bureau of Mines as the chief factor in limiting the American production. Neither those who went to cities to take war jobs, nor those who went into the armed services, have returned to the mines and mills. CPA also announced late in November that controls on tin for tubes and other containers will continue throughout 1947. American container production is designed chiefly for food packaging. CPA reports there will be an increase of 47,200 tons in the supply of tin next year, but that the world demand for the material will exceed an additional 190,000 tons, or a total of 230,000 tons. This year's requirements were 145,600 tons. The world supply this year totalled approximately 95,000 tons. Tin will be imported next year exclusively by the Government. Production in the Far East has been very slow.

PRODUCTION OF GLASS CONTAINERS

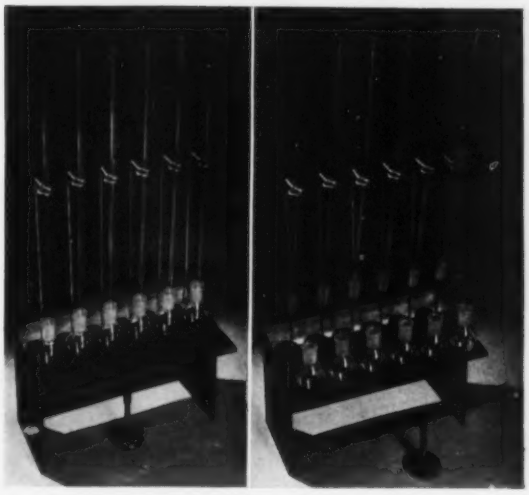
It is interesting to note that the Government found, late in November, the rising large production of glass containers, exceeding 10,000,000 gross, was attributable chiefly to those used for medicinal and health supplies, and to the increase in bottles shipped to manufacturers of liquor and beer. In October it was suggested the cosmetic and toiletries industries might demand such quantities of special types that the manufacturers could be embarrassed. Apparently the cosmetics and toiletries people have done the best job of self-policing, which was requested by CPA's Jack Small when the glass container economy was decontrolled. The latest Census revealed there had been a decrease in the production of metal and plastic closures.

From the United States Embassy at Ascunsion, Paraguay, comes a report that United States exporters of talcum powder have excellent trade prospects in that South American country. It now draws its chief supply from the Argentine. He says the Paraguayans prefer French brands of powders and skin creams, although the most popular import is a United States brand.


...as softly whispered as
the sound of falling snow
...peace once more...
A Very
Merry Christmas
and a
Happy New Year
SYNTOMATIC CORPORATION
· NEW YORK 16 N. Y. ·
SYNTOMATIC
CORPORATION

NEW PRODUCTS AND PROCESSES

Acetylization Rack



Dr. Saul's multiple unit acetylization rack

Acetylization, or the analytical determination of alcohols by means of acetic anhydride in the presence of sodium acetate, is an indispensible method of analysis in laboratories of the most diversified kinds. Every organic chemical manufacturer, essential oil house, pharmaceutical house, commercial analyst and university, requires in the course of its daily routine, the well known acetylization flask and its all-air condenser.

The equipment necessary to support and heat the flask and contents has been assembled by the ingenuity of the laboratory chemist from the customary laboratory ring stand, clamps, air bath, heating equipment, etc. The result has been that no uniform apparatus is available and the improvised assembly is usually clumsy and space consuming when multiple acetylizations must be made. To fill this gap in laboratory apparatus Dr. Everett L. Saul, of the Felton Chemical Co., 599 Johnson Ave., Brooklyn, N. Y., has designed the rack shown in the accompanying picture.

In the illustration is shown views of a multiple unit acetylization rack. It is at once neat and compact, finished in a baked, black wrinkled protective coating. The acetylization flasks are heated in an air bath and protected from free flames by means of a wire gauze. The forward holes provide a rack for the inverted flasks for drying and storage. The cadmium plated copper, removable water bath at the rear, is heated by conduction during acetylization and may be used to decompose the acetic anhydride after the addition of water. When not in use, the air condensers may be conveniently suspended on the hooks of the cadmium plated, brass supporting rods. The latter may be removed or turned in any direction. The loops at the top of the supporting rods eliminate the use of clamps and the air condensers may be readily inserted or manipulated. This equipment should find a welcome place in all laboratories conducting analytical work. For further details, and the price, consult the Felton Chemical Co.

Corrosive Resistant Coating

Lithcote, a multiple-coat, non-vitreous enamel-like finish, which has enjoyed particular success in the pulp and paper field, is now being extended to other fields by Bedford Development Corp.

Lithcote is said to have been successfully applied to food processing equipment, pharmaceutical tanks, distillery process and storage equipment, chemical tanks and tank cars and equipment.

It is sprayed on equipment and baked, producing a non-porous, glass-like surface. Usually hot water and brush are sufficient to clean equipment that has been treated, but steam sterilization may be used where necessary.

Chemical Speeds Sealing Operation

Kano Laboratories has developed a new product called "Kano Tak," to be used in speeding up sealing operations. It is said to soften glue so quickly that gummed tape sticks so fast that after ten seconds it cannot be removed without tearing the paper. Used in mailing machines this new product acts to prevent unsealing of envelopes in the mail. The product comes in concentrated form and is mixed with ten times its own volume of water.

New Timer

Photoswitch, Inc., has introduced Photoswitch Electronic Timer, Type 30HL1, an automatic timer for intervals from 1/20 second to four minutes with an accuracy variation stated to be 2 per cent. It provides four basic types of timing: Interval, delayed action, automatic repeat and programming, as well as variations of these four fundamental types.

New Catalogs

Container Decoration

Distinctive printing in any color or combination of colors on all types of plastic, metal or glass containers is offered by Verne Gilbert, Inc. In addition the company states that it is prepared to spray jars or bottles in any desired color and also specializes in hand decoration on all types of materials.

The Heyden Chemical Corp., 393 Seventh Ave., New York, N. Y., has mailed a new price list.

The Atlas Powder Co., Wilmington, Del., has issued Drug and Cosmetic Emulsions, a valuable piece of industrial literature on surface active agents. The book is well illustrated and formulated.

Subjects covered include emulsions, dispersion and solubilizing agents, detergents and humecants. The formulation of cosmetics of both the oil-in-water and water-in-oil types is discussed.

"that's it in the blue bottle"

Color stops the eye, starts the sale . . . pack to attract in

Maryland Blue

MARYLAND GLASS CORPORATION
BALTIMORE, MARYLAND

CHICAGO: Berman Bros., Inc., 1501 S. Laflin St.
CINCINNATI: J. E. McLaughlin, 401 Lock St.
KANSAS CITY: Aller Todd, 1224 Union Ave.
MEMPHIS: S. Walter Scott, 608 McCall Bldg.
NEW YORK: Maryland Glass Corp., 270 Broadway
SAN FRANCISCO: Owens-Illinois Glass Co.,
Pacific Coast Division, 135 Stockton St.
ST. LOUIS: H. A. Baumstark, 4030 Chouteau Ave.

THE ROUND TABLE –

Frederick H. Ungerer Lays Cornerstone of New Ungerer Factory

With appropriate ceremonies in the presence of over 60 guests, executives of the leading houses in the trade, and employees, Frederick H. Ungerer, president of Ungerer & Co., New York, N. Y., which has been in the essential oil business for over 50 years laid the cornerstone in the administration building of the company's new factory in Totawa, New Jersey, November 22. The guests were taken by bus from New York to the plant where they inspected the seven buildings and gate house of the new plant, witnessed the laying of the cornerstone and the distribution by Mr. Ungerer of bonuses to the employees. At 7 p.m. the party was taken to the Meadowbrook where dinner was served after which dancing was enjoyed.

Frederick H. Ungerer

The layout and location of the new plant elicited much favorable comment. Already seven buildings and the gate house have been erected on the eight acre site and manufacturing has already been started in most of them. The administration building contains the private offices of Frederick H. Ungerer, president and treasurer; Kenneth G. Voorhees, executive vice president and Carl Jensen, plant manager in addition to a reception room, a conference room, a first aid room, and general offices. This building is equipped with sound proof ceilings and fluorescent lighting.

Building B is the flavoring building and includes the research, analytical and flavoring laboratories; Building C is devoted to vacuum distillation, rectification and processing of essential oils; Building D is given over to the manufacture of oleoresins and plant extraction; Building E is used for steam distillation of spices and contains a pilot plant and gas fired stills.

Building J is the boiler house in which are located high pressure boilers and compressors. Coal and oil are both used for fuel. Washrooms, lockers and showers are also located in this building. The warehouse and attached garage is still under construction and a spur will run directly from the nearby Lackawanna railroad to the loading platform. Lighting here as throughout the plant is provided by explosion proof fittings. All floors in the factory buildings are surrounded by trenches and are so pitched that all liquids drain to the sides where they empty into the sewer. Incidentally, all service pipes and wires are underground. All of the buildings are insulated and all are heated from the central boiler plant. The equipment is modern throughout and represents the latest ideas in manufacturing practice. Thus for citrus oils a spacious and completely air conditioned room is provided.

All buildings are of steel construction, concrete and facing brick. One parking area is provided and later this will be extended and a fence will enclose the property.

M. Couderchet Opens Los Angeles Branch for Naugatuck Aromatics

Maurice Couderchet, manager of Naugatuck Aromatics division of the United States Rubber Co. has returned from a three weeks trip to the coast where a branch office was opened in Los Angeles. T. Henry Reardon is in charge of the West Coast office whose address is P.O. Box 487, Torrance, Los Angeles, Calif. Other branches are maintained in Chicago, Toronto and Montreal. The main office is at 254 Fourth Ave., New York, N. Y.

Speel to Develop Surface Active Agents for Alrose Chemical Co.

Henry C. Speel, who is well known as the author of a number of articles on surface active agents, flexible glues, pharmaceutical and cosmetic chemicals, has joined the Alrose Chemical Co., Providence, R. I., where he will work with surface active agents and chemical specialties in technical service and market development, particularly in the cosmetic and related fields. Mr. Speel was graduated from Harvard University in 1930 after which he was associated with the Atlas Powder Co. for a number of years where he played an important part in the development of uses for mannitol, sorbitol, and their derivatives. Subsequently he was a member of the research department of General Mills of Minneapolis, Minn.

Henry C. Speel

Kay Daumit Co. Sold to Colgate —May Buy Back "Forever Amber"

The Kay Daumit Co., Chicago, Ill., was purchased by Colgate-Palmolive-Peet Co., December 1. The Daumit staff and offices will be taken over and operated as a division of the Colgate-Palmolive-Peet Co., under John Elliott as director. Kay and Harry Daumit hold an option to buy back the "Forever Amber" part of the business. The purchase price is said to have been over $4,000,000. Sales of its Lustre-Creme shampoo and hair dressing as well as the Forever Amber women's cosmetics have been growing steadily since the concern was launched as a man-and-wife business some years ago.

Hubert Schlienger Flys from Europe for First Visit in Six Years

Hubert Schlienger, eldest son of Emile Schlienger, head of Bertrand Freres, Grasse, France, arrived in the United States by airplane November 11 on the "Flying Dutchman" from Amsterdam for a six weeks' visit to this country; his first visit since the outbreak of the war. While here most of his time was spent in conferences with executives of P. R. Dreyer, Inc., New York, N. Y., American agents for Bertrand Freres. He also spent considerable time visiting the trade in the middle west and in the metropolitan territory in company with Henry Wiedman and Frederick Beyer. Mr. Schlienger reported that his father who is well known throughout the United States because of his annual visits here since 1904 up to the time of the outbreak of the war, was unable to make the trip at this time but expects to visit the United States within a year. Production in France for the last four or five years, he pointed out, has been declining. Lack of fuel, labor and transportation have been governing factors in causing this; but conditions generally are now improving steadily. Due to economic conditions higher prices are likely to continue for some time. Hubert Schlienger is business manager of Bertrand Freres; his brother Andre is in charge of production; and his brother Jack is manager of the Paris office.

Hubert Schlienger

Subjects Discussed at T.G.A. Scientific Section Meeting

Paul Douglas, president of the Toilet Goods Association, opened the Winter meeting of the Scientific Section with an address of welcome to the 250 assembled scientists. Dr. Mark W. Tapley, chairman of the section, presided.

"Occurrence of Fungus of the Alternaria Type in Caps and Emulsions," was the subject of a paper by Chandler Holt and George Carroll. On a survey of creams containing glycerin, propylene glycol and sorbitol, it was found that fungi would grow readily on glycerin and sorbitol, while propylene glycol almost entirely inhibited. In one instance, the creams containing perfume completely inhibited these fungi, while in many of them, it retarded the growth. It was found that reverse emulsion type creams were not affected by these organisms, while creams containing 50 per cent or more water were easily contaminated. This should prove the necessity of a fungicide to insure the shelf life of creams.

A lecture, entitled "Originality in Perfumery," was delivered by Henri Robert. He stressed the importance of originality, and explained how originality was, in the past, obtained in certain successful perfumes, and gave practical advice as to how it can be achieved.

E. C. Crocker discussed "A Comprehensive Method for the Classification of Odors." A method has been devised which appears to be of general utility for the description of all kinds of odors. Odors are characterized by four-digit numbers, such as 8453 for methyl salicylate or 2424 for toluene.

Dr. Henry J. Wing, in his talk "Pressure in Bottles," showed that if temperature rises, the pressure in bottles depends upon the ratio between the volume of free space at the top of the bottle and the volume of liquid. The results obtained indicate that there is but little danger that bottles will break under changes of temperature if a free space of about 6 per cent of the volume of the bottle is allowed when the bottle is filled.

A number of considerations concerning pharmacological principles in cosmetic studies were outlined by Dr. Erwin Di Cyan and Dr. Joseph J. Eller, in "Experimental Principles in Cosmetic Studies."

The technic of determinations of cutaneous respiration of extremities of human subjects was described in "Experimental Studies of Effects of Skin Creams Upon Cutaneous Respiration in Human Subjects," by Dr. John A. Killian and Charles A. Oclassen. Applications of white petrolatum or of cold cream accelerate the rate of cutaneous respiration.

The present role of surface active materials, as well as their importance as the basis for development of new products and improvement of existing ones in the toilet goods industry was the subject of "Surface Active Agents in Cosmetic Practice," by I. R. Hollenberg.

Dr. Robert R. Schwartz and Emanuel J. Marcus presented "Special Problems in the Multiple Patch Testing of Soap." The authors' paper deals with special methods devised for the comparative patch testing of large numbers of soap samples at the same time on a group of over 200 subjects.

Water absorption values have been determined for several water-in-oil emulsions and cosmetic ingredients. The water-in-oil emulsifiers have included fatty acid esters, lanolin and lanolin derivatives, and polyvalent metal soaps and gave, respectively, the highest to the lowest values. Cosmetic ingredients gave results among the lowest values obtained. The paper, "Emulsifier Evaluation by Water Absorption," was by W. C. Griffin.

The influence of different concentrations of sodium oleate in water and oleic acid in benzene on the interfacial tension has been studied. This investigation reveals the most economical concentration of each solute by itself and in combination with each other. It gave proof for the need of an auxiliary emulsifying agent. New light was thrown on the practice of intermittent agitation and ageing of solution and lotions. The subject was "Interfacial Tension Measurements by the Pendant Drop Method," by H. Heinrich.

In "The Evaporation of Aqueous Solutions and Emulsions Containing Polyols," by O. C. Cessna, E. O. Ohlmann, and L. S. Roehm, the results of tests on the evaporation rate of aqueous polyol solutions and suspensions in water show that the evaporation proceeds at a decreasing rate until all but the equilibrium water content has vaporized within a period of 30 to 40 days. The nature and quantity of polyol used had little effect on this relationship. The polyols studied were glycerin, sorbitol and propylene glycol.

Mayor Luis deHoyos Lauds New President of Mexico

Luis deHoyos, mayor of Monticello, N. Y., who served as technical adviser to the conference of mayors at Santiago, Chile, and who also went on a mission to Latin America for the U. S. State Department, at a lecture before the Woman's Club of Monticello pointed out that Mexico suffers about as much as we do from labor disturbances but the social, commercial and political stability of Mexico equals if it does not excel that of almost any country in the world. The inauguration of President Aleman on December 1, he said, ushered in an educated, cultured, internationally minded personality who will offer Mexico a government of efficiency and stability.

Luis deHoyos

Joseph Klink Jr. Vice President of Pond's Extract Co. Dead

Joseph Klink, Jr., vice president of Pond's Extract Co., New York, N. Y., cosmetic manufacturers, who had been associated with the company for 30 years died December 1 at his home in Rutherford, N. J., at the age of 48, following a heart attack. Prior to joining Pond's Extract Co. he was with Lehn & Fink, Inc. He is survived by his widow and one sister.

Anderson and Sloan Organize Robechez Import Co.

Arnold F. Anderson and Frank H. Sloan began operations at 8 East 12th St., New York 3, N. Y., November 1, offering a line of essential oils, aromatic chemicals, perfume bases, etc., under the name of Robechez Import Co. Both men have been associated with the essential oil business for years.

Gerard J. Danco Sailing January 3 to Visit Belgium and France

Gerard J. Danco, head of Gerard J. Danco, Inc., New York, N. Y., will sail on the Queen Elizabeth January 3 for a six weeks' business trip to Belgium and France.

Son of Charles C. Myers Now in W. J. Bush & Co. Organization

Robert M. Myers, son of Charles C. Myers, the well known southern California sales manager for W. J. Bush & Co., New York, N. Y., has joined the organization following his release from the U. S. Navy. During the war Mr. Myers saw service in both the Atlantic and Pacific oceans.

National Beauty & Barber Manufacturers' Assn. Elects New Officers

New officers elected by the National Beauty and Barber Manufacturers' Assn. at its annual meeting in Chicago, November 16 are: president, Milton K. Breslauer, A. Breslauer Co.; first vice president, J. H. Welsh, Lucky Tiger Mfg. Co.; second, third, fourth and fifth vice presidents: P. D. Spaeth, W. H. H. Davis, Paul R. Mulvaney and Karl H. Mamlok. Arthur M. Arthur of Bobby Trading Co. continues as secretary and Harold F. Bertrand of Conti Products as treasurer. Harold M. Cook of Nestle-LeMur Co. is honorary chairman of the board of directors. Seven new directors were elected: Irving Grombacher, Lee E. Nadeau, P. P. Pipes, Arthur S. Posner, Lesyer T. Sawyer and C. Van Housen. President Breslauer was graduated from Princeton University in 1922 and is a partner of the A. Breslauer Co., one of the few cosmetic firms whose products are sold exclusively in beauty shops.

Michael Lemmermeyer Arranges for Shipment of Robertet Products

Michael Lemmermeyer, president of Aromatic Products, Inc., New York, N. Y., returned from a four weeks business trip to Europe on the Queen Elizabeth which was making its maiden voyage to this country since the end of the war. While abroad, Mr. Lemmermeyer visited England and France. He spent two weeks in Grasse, France, making arrangements with P. Robertet & Cie. to resume the sale of their natural products in the United States. As a result of the visit Aromatic Products, Inc. announces that it will have stocks available within a few weeks so that the company will be able to deliver to its customers such Robertet products as orris concrete, oak moss, estragon, neroli Bigarade petales and other absolute flower oils, lavender, lavendin and a full line of resinoids including gum benzoin Siam. Mr. Lemmermeyer was much impressed with the continual enlargement and improvements made at the Robertet plant to maintain its enviable reputation. While in France he also visited Cannes, Nice, Monte Carlo and other places of interest.

Mr. and Mrs. Lemmermeyer and Daughters

McCormick & Co. Multiple Management Not a Substitute for a Union

Multiple management as conceived and as practiced by McCormick & Co., Baltimore, Md., is not and never was a substitute for a union as erroneously reported following the decision of the Circuit Court of Appeals for the third circuit in the case of James E. Matthews & Co. of Pittsburgh, Pa. The Matthews case did not involve multiple management as created and practiced by McCormick & Co.

The Matthews case involved an employee representative plan, a type of case which has often been held to violate the National Labor Relations Act. Members of a so-called Matthews "manufacturing board" were elected to the Matthews board by groups or divisions within the plant so that each member represented his group on the Matthews board. Consequently, members of the Matthews board did not represent management but rather their own group or division. The management recognized this; for in the company's "Personnel Policy and Partnership Plan" it was definitely stated that the Matthews management board "is a clearing house for views of factory workers and represents factory employees to the management." In this representative capacity the board discussed with management questions involving wages, hours, rates and grievances. Basically it involved representatives of labor discussing with representatives of management questions which are peculiarly within the field of labor relations. Under these circumstances in the light of the broad definition of a labor union in the National Labor Relations Act the N.L.R.B. found that the Matthews management board was a labor union.

Such a plan, McCormick & Co. emphasize, is obviously not multiple management which is neither a representative plan nor a scheme to deal with labor under the guise of management boards. Multiple management is management by several boards all of which including the senior board, fused together, constitute the management. As there is more than one board there is multiple management.

Membership on a McCormick board depends solely on ability. Members are selected by management men on the respective boards by means of a scientific merit rating system, so as to secure and utilize the best brains and the most constructive ideas and ideals in the organization.

Ever since C. P. McCormick, president and general manager of McCormick & Co. gave an exposition of Multiple Management at a meeting of the New York Board of Trade some years ago much interest has been evidenced in the trade in the success of the plan, which was adopted incidentally, by the company in 1932. Later Mr. McCormick wrote a book on the subject which has already run through several editions.

A compendium of significant news and views

Harold Hutchins says . . .

HOW IT'S DONE

Many readers of our initial contribution, last month, to the pages of this esteemed publication, have asked us where we get all the material that goes into it. Well, cooking up a News Section, like this, is just like cooking up anything else. The smart guy puts the water in the pot, before the stuff he wishes to cook. If he puts the stuff in first and forgets the water —it's a calamity. If he forgets the stuff, he has nothing but hot water, which is something we are trying to avoid. Further, because of our capacity for silence, which is a highly respected quality in this reporting business, we will say nothing about being up in the celestial vapors, as a result of the fine press notices that many discriminating readers of THE AMERICAN PERFUMER have given to HAL HUTCHINS' Compendium of News and Views. But, please know that this model of contained stability, who may seem to potter around like a lost soul in Limbo, is truly grateful. Please also know that this monthly stint is a mere bagatelle for a man of our potentialities. Someday, however, we will grasp the rich and glowing future for which we yearn and which always eludes us, to really write something for the posterity of our industry. We will do it for the love of it, not for the money! Even though money is a useful commodity, about which people, who haven't any, often make disparaging remarks. Enough of this, or we might start thinking we are earmarked for success.

TOUGH ON ARCHY

Have you heard about Velsicol? It's rated as three times more toxic than DDT to those pests of the temperate climate — cockroaches! But, that's not all! It is ten times more toxic to grasshoppers than DDT. You will be hearing a lot about Velsicol 1068, from now on, so remember that you read it here, first.

IT STARTS—IT STARTS

We inquired, not too long ago, regarding training films for use in the industry. Now, the big-wigs, in Washington, are setting up an interdepartmental committee to clear and distribute films and film strips. The industry, as part of the public, will be in on this. Watch for lists!

THE $64 ONE

We can't get away from the phrase, "Psychomatic Medicine" and frequently wonder if there is a psychomatic cosmetology? Or is all cosmetology in the mind, and no matter?

NEW BOOK COMING

Keep you eye open for a new book on dermatology, due this winter. And a good one, too. But there also is much in the older texts that one needs to know, even though some of them are only compilations of literature and abstracts that have been prepared by library research, which is not the case with this new one.

AT LONG LAST

Some of our readers will recall us telling you, in other media, that New York City was going to take on sanitation in beauty shops and barber parlors. Well, it finally hit the daily papers. So, next we remind you of the state law, regarding the licensing of beauty schools, and so on, which goes into effect in July, 1947. As far as we know, the Governor has not selected the secretary of this Commission, which is a non-paying job. Even so, we know the man for it!

DDT

There must be some hitch in the DDT field, because the report of the experts rank the stuff very high. For example, FRED C. BISHOFF, Ph.D., assistant chief of the Bureau of Entomology, who has no axe to grind, reports that the residual spray of one gallon of 5 per cent DDT solution, to one thousand square feet, liberally applied to surfaces upon which insects crawl and rest, provides 3 to 12 months protection against many disease carrying insects. Larvae of malaria mosquitoes are extremely susceptible to a 5 per cent solution of emulsion of DDT, applied at the rate of 1/10 pound per acre of breeding places. The common house fly is susceptible to a spray of 100 to 200 mg. per square foot, applied to walls, windows and ceilings. A single application may be effective for eight months. Fleas can readily be eradicated by spraying infested places with 5 per cent DDT in kerosene. Bedbugs are killed, and premises freed for many months, by one application of 5 per cent DDT in kerosene. Cockroaches are exterminated slowly, but effectively, by a heavy residual spray, in kerosene. Human lice and human scabies respond to DDT and the dangers of use are not very great, if the DDT is used as directed.

CAN YOU TOP THIS?

Retired officers of the Army, Navy, Marines, Coast Guard, Coast and Geodetic Survey, and the Public Health Service may go back to work for the Veterans Administration, without loss of retirement rights. However, except for retirement for combat disability, pension may not be drawn, if the officer's total income from the government exceeds $3,500 a year.

NEWS . . . **Harold Hutchins Says** . . . VIEWS

SIXTH SENSE

Now comes word that 80 per cent of all impressions we receive come from sight. This seems to be a good advertisement for the adequate packaging of cosmetics. In fact, from now on, when somebody does a good packaging job, it might be well to call it ADequate. This seems to substantiate one of our earlier statements that the nose misses 90 per cent of the apparent odors. Well, we have talked about two of the senses—sight and smell—and most people would claim there were only three more—meaning touch, taste and hearing. But, they are wrong! What are these additional senses, you ask? Well, when you guess the weight of an object, by lifting it, which one of the five senses do you use? None! It's a sixth muscular sense that tells you the answer. And again, during the war, we learned all about the bat and its sense which replaces sight. In fact, that was our first tip on radar. Further, what sense does a blind man use when he is aware that he is approaching an obstacle? And what sense do you use, in a dark room, which tells you a chair is in your way, or haven't you noticed? As a matter of interest, it has been stated that we have over a dozen senses, but are conscious of only five.

EARLY IMPRESSIONS

No wonder they had culture in Boston at an early date, since the first printing press in North America found haven there in 1674. The second one was at Williamsburg, Va., in 1681. Philadelphia had the third, in 1685. Ah, yes—New York had its first printing press in 1693. And the first insane asylum was established at Williamsburg, Va., in 1773.

ABOUT VECTORS

If you came upon the word "vector", would you know it meant an intermediate host which transfers disease to man? The mosquito, for malaria, for instance? Now, do you know why DDT is expected to have an influence on the health of the people of the world?

SMALL WORLD

Everyone should have one of the new maps of the world, since we know that changes have made the old ones obsolete. It's really nice to look for the places we have visited, and the others that we hope to visit. The world, it seems, has grown so small, since we studied the habitat of drugs, in our pharmacognosy class, at the PHILADELPHIA COLLEGE OF PHARMACY & SCIENCE. Did you read of the protest, made recently, by a society of chefs accused of having had frozen partridges? As a matter of fact, an airplane brought the partridges, unfrozen, half across the world for their feast.

NEW ARRIVAL

Have you investigated tetra cresyl silicate—the new chemical for the transfer of heat and cold?

OPEN HOUSE?

That medical payment plan, well publicized as being for the underpaid white collar group of less than a $5,000 paycheck per year, is now revealed to permit the inclusion of those with higher rates of pay—that is, up to five per cent of the total enrollment to the plan. We wonder if that would not just about include everybody?

NO SOAP

We bet you didn't know that back in 1652, the surgeons of New Amsterdam petitioned PETER STYVESANT—the guy with the peg leg—for exclusive rights to shave people. "No soap," said peg leg, adding that shaving was not the exclusive right of the surgeon, but only an appendix to their job.

PURELY SYNTHETIC

The current advertisement of a chewing gum, which reads—"The gum with the fascinating artificial flavor, "reminds us of a story told by the late DR. CHARLES L. LaWALL, at the time we were one of his "stellar" pupils. It seems the Pure Food and Drug Act had just been passed and DR. LaWALL, aiding in its early enforcement, told a South Philadelphia confectioner that if he persisted in using artificial flavors at his soda fountain, he would have to prominently display a sign, telling his customers that he didn't use true flavors. So, the man put up a sign, the width of his store and a yard high, which read—"Notice To Our Patrons—From This Date On, We Promise To Use Nothing But HIGHLY Adulterated Flavors At Our Fountain!" The announcement brought forth a tremendous increase in business to the confectioner, because the not-too-well educated residents of this particular section of South Philadelphia didn't know the meaning of the word "Adulterated," but did know that "HIGHLY" meant about the best attainable.

SANTA CLAUS STUFF

It is rather amazing to read about "distinguished leaders in international trade" holding their annual convention, at the Waldorf-Astoria, in New York. They "unveiled" a new kind of "dollar diplomacy," which they said was "stripped of its historic antiquity," in order to substitute another insipid economic foreign policy. Now, it does appear that huge barrels of American money are being scientifically loaned to foreign nations, with the expectation that they will pay the money back for American goods. But, they will continue their historic policy of forgetting to pay the principal they borrowed. This "dollar diplomacy" is the illegitimate child of free trade. Isn't it perfectly evident to all fair-minded people that the Europeans are going to furnish every article of commerce that is possible from their own fields, factories and institutions? They aren't going to buy high-priced goods from high-priced America. "Dollar diplomacy" is Santa Claus stuff, to our thinking.

"FREE" MERCHANDISE

In announcing the dismissal of an alleged false advertising case where the retailer had offered "free" merchandise to customers, the FTC clearly distinguishes the advertising of this kind which it allows or condemns. If interested, write the Commission, asking for the "Order Dismissing the Complaint Against 'Samuel Stores, Inc.'"

HELPING HAND

To help young scientists who have demonstrated marked ability in research in chemical or biological sciences, MERCK & CO., Inc., is establishing a fund of $100,000 with the National Academy of Sciences, for fellowships in the natural sciences. These MERCK Fellowships will be administered by the NATIONAL RESEARCH COUNCIL.

FDA MODIFICATION

The Food and Drug Administration has recently modified its regulation requiring that directions for cosmetics, medicines, etc., must cover every use appearing in advertising and sales promotion. It now covers distributors as well as manufacturers. Current cases are mainly against distributors, who promote the products independently of the manufacturer's advertising. Such a distributor must re-label his product. The manufacturer himself does not become responsible for advertising campaigns of unknown distributors.

NEWS . . . **Harold Hutchins Says** . . . VIEWS

LEVER HONORS EMPLOYEES

Thirty-eight members of the staff of LEVER BROTHERS CO., who have been with the organization for a quarter of a century, plus nearly 800 who have completed their fifteenth year of employment, were the principal guests of honor at dinners recently held simultaneously in Boston, Chicago, Baltimore and St. Louis. Those entering the Quarter Century Club were presented with gold, diamond-studded emblem pins and $100 U.S. Savings Bonds. Members of the fifteen-year group received gold watches. Guests at the LEVER dinners were linked together via radio for a time, when a portion of the talk which CHARLES LUCKMAN, president of LEVER BROTHERS, made at the Boston dinner was broadcast between acts two and three of the "Lux Radio Theatre" program that evening. During the course of his talk, MR. LUCKMAN stated his belief that workers should come ahead of stockholders in the rewards of business, and that his company must give "full value" to its customers. He also cautioned his listening audience to "seek great worthiness in those who are the managers of our business."

THE BALD TRUTH

Another alleged "cure" for baldness struck a snag recently, when the subject of the treatments received so much publicity that it interfered with his duties as a traveling salesman, in northeastern France. He resented being compared to a human guinea pig and refused to go on with the treatments, even though the concoctor of the "infallible cure" modestly declared a bit of fuzz had appeared.

INDUSTRIAL FAIR

A premiere center of new industrial ideas, patterned after the permanent Fair at Leipsig, Germany, is scheduled to open next June, along the Atlantic City famous boardwalk. The principal exhibit building will be the Million Dollar Pier, extending more than a third of a mile out over the Atlantic Ocean. The Fair will be of a permanent nature, reports WILLIAM G. ROLLEY, president.

SOMETHING IN IT

Nine million sticks of surplus camouflage paint, containing critical fats and waxes, are being offered for sale to normal channels of trade by the War Assets Administration, on a sealed-bid basis. The sticks contain the following valuable basic ingredients: carnauba wax, three per cent; lanolin, 10 per cent; castor oil, 25 per cent. Other ingredients are dimethylphthalate and coloring. WAA believes the sticks will interest manufacturers of soap, shoe polish, furniture polish, among others, who are invited to investigate the possibilities of purchasing the surplus stocks for extraction of the fat and wax ingredients. Information is available at the Drug and Medical Sales Division of WAA, at Washington headquarters.

COUMARIN ADVANCES

A notice mailed out to the trade, late last month, by FRITZSCHE BROTHERS, INC., stated that "Effective at once, our supplier of coumarin has advanced the selling price to $3.25 per pound, in 20 pound containers and $3.30 per pound in 5 pound containers, f.o.b. New York. This price becomes effective on all spot sales and deliveries against existing contracts. Apparently this notice was long overdue, in face of the increasing raw material and manufacturing costs.

TOMORROW'S COSTS

Future-minded management executives, we are told by AMERICAN MANAGEMENT ASSOCIATION, are shifting their attention from the old problems — shortages, government regulation and labor productivity. Now they are concentrating on marketing and product research, and technological improvement as steps toward lower costs and higher profit for the manufacturer and lower cost for the consumer. Taken as a whole, the AMA studies are reported to form a cross-section of management activity in this direction, reflecting the most effective cost reduction and improvement programs in industry.

URGES RESEARCH

Considerable scientific research on vitamins must be undertaken in order to "furnish the foundation for the proper, rational and adequate usage of vitamins in public health and the practice of medicine." DR. W. H. SEBRELL, chief of the division of physiology, NATIONAL INSTITUTE OF HEALTH, recently told the NATIONAL VITAMIN FOUNDATION, at its first dinner meeting at the Waldorf-Astoria. At the same time, it was announced that the FOUNDATION had approved a program involving 9 grants-in-aid, totaling $34,300, for vitamin research at hospitals and universities.

PARISIAN VISITOR

MARIO RIGAUD, president of RIGAUD PERFUME CO., Paris, and RIGAUD, INC., New York, arrived in Manhattan, late last month, aboard the Ile de France, to launch his latest perfume creations. He is a grandson of the founder of the famous perfume house he now heads. In 1939, immediately upon his graduation from the National School for Economics and Social Studies in Paris, MR. RIGAUD was mobilized into the French Army. He was wounded, during the German offensive on Dunkirk, and taken prisoner. For his war services, he was awarded the French Military Medal and the Croix de Guerre. MRS. RIGAUD, the former MISS DUBONNET, daughter of the renowned French industrialist, accompanied her husband.

"PRESENT LAUGHTER"

A large crown bottle of PRINCE MATCHABELLI's perfume is one of the most important props in NOEL COWARD's new play, "Present Laughter." It is handled and discussed by the chief members of the cast—CLIFTON WEBB, EVELYN VARDEN and DORIS DALTON—for a good ten minutes. While it is never mentioned by name, there is a noticeable buzz and many in the audience whisper, "that's PRINCE MATCHABELLI's perfume."

NO COMPLAINTS

We love the cosmetic industry for its people. Employers can't be told from employees. We love the incredible collection of trade-press people—from the scandalous to the profound and purists. We love the industry, because of the parties we go to. Parties given when a new product is launched, a perfume changes its packaging, or when a new laboratory is opened. Parties that, sometimes, you can't figure out who gives them or why they are given. But, all in all, we love the cosmetic industry for the people we meet, in connection with our work; that we meet in our office: in convention hotel rooms; over the luncheon table: in the research laboratories; and in the offices of the manufacturers and their advertising agencies. We love the hundreds of people we meet, every week, through the letters we receive from newly-made friends. In short, we love everything about the business so much that when we are away from it—we only think of our return, like a lover to the beloved. And we only ask that the industry accept us for the rest of our life.

NEWS . . . **Harold Hutchins Says** . . . VIEWS

GROWING PAINS

The LANDER CO. is planning a considerable increase in its advertising and promotion plans for its complete line of toiletries. Advertising plans call for full-color pages, as well as 2-column, 2-color space in various groups of women's magazines with mass circulation. The Negro press will be used exclusively for their hair pomade. The over-all schedule, which is being placed by REISS ADVERTISING, will run over $50,000. A new plant in California will be built by LANDER.

(LESS-I-THIN)

Lecithin, one of the least known and most widely used of the soy bean products, will be marketed extensively by the GLIDDEN CO., which recently revealed plans for a Lecithin Sales Division, formed within their company. The product is widely used in the cosmetic, insecticide and soap industries, among others.

COMMERCIAL STANDARDS

Reprints of an article on Voluntary Standards Adopted by the Trade, which appear in the November issue of Domestic Commerce, may be obtained by writing to F. W. REYNOLDS, Acting Chief, Division of Standards, U. S. Department of Commerce. A limited distribution of the reprint already has indicated a wide interest in the subject.

EARLY RESERVATIONS

Every soap and glycerine producer, whether or not he is a member of the ASSOCIATION of AMERICAN SOAP & GLYCERINE PRODUCERS, is invited to attend their annual meeting, to be held at the Waldorf-Astoria, January 22. Because of the crowded conditions still existing in New York, ROSCOE EDLUND urges all who plan to attend to make their reservations as soon as possible.

NEW CLEVELAND OFFICE

MONSANTO CHEMICAL CO. has opened a sales office in the Keith Building, Cleveland, Ohio, to serve the greater Cleveland area. ROBERT H. BAUGH will supervise the office and represent the phosphate division sales; T. C. TUPPER will handle the organic chemicals division, and R. T. CLARK the MERRIMAC division.

ENTER NEW FIELD

Entrance of the AMERICAN POTASH AND CHEMICAL CORP. into the finished chemicals field was indicated at their recent annual meeting, held at the company's offices in New York. B. R. ARMOUR, chairman of the board, revealed that the company—second largest producer of borax—would, in the future, further process some of the basic chemicals it now produces, citing as an example plans to market potassium bromide, a medicinal drug, instead of the raw material, bromine, which the company now sells. Future plans also include a $4,500,000 plant addition for the production of scarce soda ash and borax; a $2,000,000 power plant expansion and a $300,000 research and chemical engineering facility.

HIGH FASHION SHADES

Important news for finger fashions comes from the NORTHAM WARREN CORP., with the introduction of two new CUTEX shades—Red Flannel and Deep Velvet. These shades are the first examples of a new formula that incorporates three major selling points—greater ease of application, longer wear and added lustre.

NEWS . . . **Harold Hutchins Says** . . . VIEWS

WRAPPED UP

Packaging came into sharp focus last month, when the first open forum, since the war, was held by delegates of the PACKAGING INSTITUTE, at the Stevens Hotel, in Chicago. Nearly a thousand manufacturers, including those of cosmetics, foods, drugs, bakery products, as well as the principal manufacturers of containers, chemicals and packaging machines were in attendance.

DCAT GROWING

HAROLD ALTSHUL, chairman of the DRUG, CHEMICAL and ALLIED TRADES SECTION of the NEW YORK BOARD OF TRADE, disclosed last month in his annual report that over four billion dollars in annual sales have been reported by the 34 per cent of the SECTION'S members who have responded, to date, to the survey being conducted. Other statistics, including wages, Federal taxes paid, and the number of employees are also included in the survey. The DCAT is also working toward a unification of the Food, Drug and Cosmetic regulations by various Federal, State and Municipal authorities. The Membership Committee, under chairman LLOYD I. VOLCKENING, reported a record of 118 new members, during the year, bringing the total to 716, the highest in the DCAT's history. A new executive committee was elected to serve through the coming year. Personnel of this committee will elect its own officers. The date of the Annual Drug and Chemical Dinner has been set for Thursday, March 13, 1947.

NEW MOVE

AGNES MAC GREGOR, INC., announces the removal of its office and laboratory to 1513 North Larrabee St., near Ogden and North Avenues, Chicago 10, Ill.

SCIENCE LIBRARY

The INTERNATIONAL SCIENCE EXHIBIT, sponsored by the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE IN BOSTON, December 26-31, 1946, will feature a model Science Library, organized by the Technical Library Consultants, specialists in library installation and research.

WORTHY AMBITION

Now that the term of DR. RALPH DORLAND, of DOW CHEMICAL CO., is drawing toward a close, as president of the NEW YORK BOARD OF TRADE, he has sent out a final appeal to its members for additional, voluntary cash contributions to their "Reserve Fund," which is being built up for a "rainy day" when the BOARD must fight harder to promote business and will need funds to do it effectively. The fund at present contains $23,000—which shows an increase of $5,000 this year.

OWN BEAUTY BOX

After thirty-five years experience with girls, the GIRL SCOUT organization now offers an exciting new beauty box for GIRL SCOUTS, designed to meet the needs of the younger girls who are just becoming interested in good looks. It believes that while the natural beauty of youth needs no adornment, a course of hand, skin and hair care, together with a study of foods and other aspects of health, is good sense, now, for greater charm later. The Beauty Box was prepared in cooperation with DAGGETT & RAMSDELL, and may only be purchased through official GIRL SCOUT outlets.

NEWS . . . **Harold Hutchins Says** . . . VIEWS

WAA CLARIFIES THINGS

To avoid confusion in the public mind, between Regional WAA Office of Information, which primarily serves the press, and the Regional Sales Information Office, which serves buyers, the latter office has been renamed the Customer Service Division.

LEVER PROFITS

LEVER BROTHERS last month reported consolidated net profits of $41,681,913 for 1945. No comparative figure for 1944 was available, since the report of UNILEVER N. V., the Dutch company, included a large amount of profit attributable to 1940 and 1943. Boards of both the English and Dutch companies have recommended common stock dividends of 5 per cent for the year.

BRIGHT OUTLOOK

Completing the first leg of a tour, visiting drug wholesalers and manufacturers throughout the country, officials of the NATIONAL WHOLESALE DRUGGISTS ASSOCIATION returned to New York recently confident that, despite the elimination of price controls, costs of health supplies to consumers can be kept generally in line. Rising drug sales volume, which by the end of this year should be at least 20 per cent ahead of 1945, offers the best hope for holding the price line, declared an NWDA official.

NEW CHICAGO OFFICE

N. I. MALMSTROM, America's largest processor of wool fat and lanolin, has opened its new offices and warehouse at 30 West Washington St., Chicago 2, Ill.

GOING UP!

J. B. WILLIAMS CO. recently announced a 10 per cent salary and wage increase for all employees, except officers of the company.

NEW SOAP PRICES

The overall price of LEVER BROTHERS soap products has been advanced by an approximate average of 50 per cent because the prices of raw materials, used in making soap, have gone up about 125 per cent, since the removal of price ceilings, according to a recent statement by WALTER W. McKEE of LEVER BROTHERS.

PERFUME GADGET

The ATOMETTE perfume dispenser is cleverly designed to release a single drop of perfume at a time. No bigger than an ordinary lipstick, this streamlined unit holds a dram of your favorite fragrance. It is unbreakable, spill-proof and leak-proof and is now available in department and jewelry stores, priced at $2.00 and packed in a neat gift box. The ATOMETTE CO. is the manufacturer.

ON THE MOVE

MAISON F. MELIKOV, INC. announces the removal of its "exclusive parfumerie," from their two previous locations, to 7530 North Sheridan Road, Chicago 26, Ill.

FOR OLD-TIMERS

DR. THEODORE G. KLUMPP, president of WINTHROP CHEMICAL CO., recently predicted that by 1980 "there will be not less than 60,000,000 Americans 45 years of age and over, and more than 21,000,000 who are 65 and over. Compulsory retirement on a calendar age basis should be abandoned, he believes, because society has been illogical and inconsistent in its attitude toward the older worker.

NEWS . . . **Harold Hutchins Says** . . . VIEWS

P.C.P.&S. RECORD ENROLLMENT

The PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE has the greatest number of graduate students in the history of the college. There are 38 candidates for graduate degrees, with 23 majoring in pharmacy, six in bacteriology and nine in biology. Four of them are women, and 19 of the men are veterans.

BRAND NAMES SURVEY

Public credence in advertising has tended to be undermined by the dissemination of economic fallacies, during the past decade, HENRY E. ABT, managing director of the BRAND NAMES FOUNDATION, recently charged in an address before the ASSOCIATION OF CANADIAN ADVERTISERS. Announcing, for the first time, the results of a public opinion survey of the extent to which people believed in advertising, MR. ABT said the poll showed that more than 60 per cent of those whose faith and acceptance had been lessened, came to that point of view through influence entirely apart and separate from the advertising itself. He further declared that there is no more inviting target for interests that would eliminate privately-owned enterprise, than the system of competition predicated in trade marks, brand names and advertising. If the competition between identified products could be eliminated, he added, the task of the collectivists would be much easier and they try, by every means, to undermine brand names and advertising.

ON FAIR TRADE

Four units of STERLING DRUG, INC. are putting on fair trade all products manufactured and distributed by them, including Dr. Lyons' Tooth Powder, Phillips' Milk of Magnesia, Haley's M-O, Molle Shaving Cream, Ironized Yeast and Caroid and Bile Salts.

NEW MERCK UNIT

A new manufacturing unit for the production of critically-needed Vitamin B_{12} will be erected at Elkton, Va., it was recently announced by GEORGE MERCK, president of MERCK & CO., INC. Approval for the $295,000 four-building unit was recently granted by the Civilian Production Unit, at Richmond, Va.

WEST COAST ACTIVITIES

The twenty-one exhibitors, who recently participated in the Annual Dinner-Dance program of the CALIFORNIA COSMETIC ASSOCIATION, really put on a show for those attending the affair, held at the Hollywood-Roosevelt Hotel. Included in the exhibit were moving parts, special lighting effects and even actual demonstrations. Each exhibitor had set off to advantage his own special field of endeavor, whether it was packaging materials, boxes, containers, plastics, perfume oils, chemicals, etc. The exhibit was open from 6:00 p.m. to midnight, and most everyone visited it, in between the courses of an incomparable dinner, and dancing to the strains of PHIL ARDEN's music, augmented by a girl vocalist. A low bow to JUDGE SMITH, president of this aggressive West Coast group.

NEW SHOWROOM

RICHARD HUDNUT announces the opening of a new showroom and office in Suite 1702, Republic Building, 209 South State Street, Chicago, Ill. You are cordially invited to visit and view their new surroundings and new lines.

NEWS . . . **Harold Hutchins Says** . . . VIEWS

CHICAGO HAPPENINGS

We are deeply indebted to TALMADGE TRIMBLE, secretary of the CHICAGO DRUG AND CHEMICAL ASSOCIATION, for sending us a copy of their Newsletter. Frankly, it is one of the most-informative and best-edited association bulletins that crosses our desk. At their last monthly luncheon, members were addressed by STANLEY HIGH, roving reporter of READER'S DIGEST, who had just returned from a trip through western Europe. The subject of his talk was—"Socialism Meets Communism in Europe," and he applied his intimate knowledge of the subject, through frequent references, to the problems of domestic and foreign policies. EDGAR E. BRAND, chairman of the Program & Luncheon Committee, is an expert in securing the services of capable speakers for these monthly affairs.

DETROIT EVENTS

The annual Christmas Party of the ALLIED DRUG AND COSMETIC ASSOCIATION OF MICHIGAN, presided over by MAISON G. deNAVARRE, is to be held Saturday, December 14th, at the Book-Cadilac Hotel. Reservations are being handled by W. E. LUFF, of MALLINCRODT CHEMICAL WORKS. Association officers for the coming year were presented at their annual meeting, held last month, at the Detroit-Leland Hotel.

FINANCING EXPANSION

EDGAR M. QUEENY, chairman of the board of directors of MONSANTO CHEMICAL CO., reports a 25-year debenture issue to provide $30,000,000 for expansion plans, which has been privately placed with a group of five insurance companies.

PURELY PERSONAL

PROF. HENRY W. HEINE has rejoined the pharmacy staff of Purdue University, after having been granted a leave of absence, in March 1942, to act as Senior Industrial Specialist on the War Production Board, in Washington, D. C.

DR. FREDERICK J. AUSTIN, who recently retired from Richard Hudnut, was presented with a watch and a scroll, at a recent meeting of the Scientific Advisory Committee of the Toilet Goods Association, "in recognition of his scientific ability and for his many contributions to the cosmetic industry." Prior to joining Hudnut, he had been connected with E. R. Squibb & Sons, as well as later serving as a consultant to the industry.

CARL F. SPRAGUE has been appointed manager of the Sandusky laboratory of the Hinde & Dauch Paper Co. His seventeen years of packaging experience in the industrial and consumer goods fields brings to the company his knowledge of the shipper's and merchandiser's viewpoint.

JOHN C. DOORTY, formerly with Batten, Barton, Durstine & Osborn, and a foreign correspondent in Europe for American newspapers, has been named advertising director of Shulton. Plans already have been announced for increasing Shulton's Spring advertising budget by 33 1/3 per cent over this year.

PHILIP E. NUTTLE has been appointed sales manager of the flavor department of S. B. Penick & Co. Previously, he had been an executive of the Hospital Service Plan of New Jersey.

NEWS . . . **Harold Hutchins Says** . . . VIEWS

BENSON STORFER, president of Parfums Corday, Inc., flew to Bermuda, last month, for a vacation, after the trials and tribulations of moving the Corday showrooms and executive offices from 655 Fifth Avenue to 730 Fifth Avenue.

LAUTIER FILS, INC. has purchased the five-story building located at 321 Fifth Avenue.

DONALD A. BUNCE has been appointed manager of the new Burlington, N. J., chemical plant of HERCULES POWDER CO., according to a recent announcement made by Dr. Wyly M. Billing, general manager of the company's synthetics department.

MAX FACTOR has registered a plan, to issue 600,000 shares of stock having a value at par of $1.00, with the Securities and Exchange Commission, in Philadelphia.

F. P. SCHNEIDER has been elected president and general manager of the Velsicol Corp., succeeding Julius Hyman, who recently resigned. The new president's plans are to expand the manufacturing and production facilities to handle their increased demand for coresin core oils, synthetic resins, aromatic solvents and insect toxicant solvents, including Velsicol 1068.

JOHN J. HEALY, JR., director of development for Monsanto Chemical Co.'s Merrimac Division, has been appointed assistant general manager of that division.

W. AVERILL HARRIMAN, Secretary of Commerce, has cited the Packaging Institute for its part in keeping at a "high level the production and distribution of goods."

EDWIN McNALLY, executive vice president of the Barbasol Co., has succeeded the late Frank Shields, as president of the company. LOUIS WASEY remains as chairman of the board.

CYRIL D. WAGNER has been appointed director of sales and assistant to the president of Parfums Corday. Previously, he had been associated with Park & Tilford, as assistant to the president. Since last May, he has served as a Compliance Commissioner for the Civilian Production Administration.

MILDRED LEARY, formerly with Dorothy Gray, has just brought out a line of cosmetics under her own name.

M. K. KATZ has resigned as vice president and sales manager of Volupte Compacts, Inc., and Herb Farm Shop, Ltd., to organize his own company, for the promotion and distribution of new and selected established products through retail channels. He had previously been with Helena Rubinstein, and R. H. Macy, in various selling and merchandising capacities.

DAVID A. PFAELZER has been appointed assistant sales manager in charge of paper products, of the Amino Products Division of International Minerals & Chemical Corp.

JOHN L. GILLIS, former general export manager and assistant director of the foreign department, has been named head of the department, at Monsanto Chemical Co. Other appointments include EDWIN L. HOBSON, as assistant branch manager of the New York office of the company's Plastic Division.

IRMA ERICSSON has resigned, after having served for eight years as advertising manager of Shulton.

MARKET REPORT

Prices on Fats, Oils, Glycerin, Alcohols Raised

ABANDONMENT of price controls brought about sharply higher prices for fats and oils, and two other major items, namely, glycerin and alcohol. There was a rush on the part of consumers to purchase certain scarce articles, but decontrols failed to bring about any decided change in the overall supply position and the increased number of inquiries only served to aggravate the extremely tight position. Major glycerin producers boosted prices 37 cents a pound to the basis of 55 cents for material in tank-cars while in the resale market prices as high as 75 cents to $1 per pound were heard.

Because of an increase by the Government of 26 cents, industrial alcohol producers found it necessary to increase their price schedules 28½ cents a gallon. Due to the shortage of molasses, industrial distillers are taking as much as 80 per cent of their shipments from the Government stockpile. The cost of stockpile alcohol was increased to 75 cents a gallon from 49 cents.

The sharply higher costs of the above basic materials will undoubtedly be reflected in a great many items including flavoring compounds, tinctures, and extracts, and will likewise have an affect upon the cost of certain aromatic chemicals and the acetates.

The action of prices covering essential oils was more orderly following decontrol. This was perhaps due to the fact that values in a number of instances have been abnormally high. Oils sandalwood and lemongrass displayed considerable strength. Ocotea cymbarum moved slightly higher in price, but Paraguayan petitgrain, anise and cassia displayed an easier tone.

Comparatively little demand was reported for patchouli because of the ridiculously high prices quoted on the article. Since there had been offerings for later deliveries at around $50 to $65 per pound in contrast to $75 and $80 for spot goods, there was a general inclination on the part of buyers to mark time. Normally this article sells at around $8 to $10 per pound.

CITRONELLA OIL IMPORTS

A development of considerable interest in the market over the past month was the action by the United States Court of Customs and Patent Appeals sustaining the decision of the United States Customs Court when, in the suit against a large soap manufacturer, it had handed down a ruling that citronella oil containing a petroleum distillate is entitled to entry into the United States free from duty under the Tariff Act. Major importers of citronella oil had been awaiting the decision by the higher court for many weeks. However, the latest ruling is not expected to cause any appreciable reductions in citronella prices because the limited quantities in the primary market are being held for high prices.

Although production of certain basic materials necessary for the manufacture of aromatic chemicals increased following the resumption of operations at strike-bound plants, makers of aromatics have a fairly large backlog of orders and seasonal influences served to stimulate purchases in some instances.

HIGHER COST OF AROMATIC CHEMICALS SEEN

Relatively few price developments were recorded in the general line of aromatics, but major producers indicated that there is likely to be some upward price adjustments if the sharply higher prices of fats, glycerin and alcohol are maintained.

Major alkali producers are now booking contracts covering 1947 deliveries at increased prices. The advances in these major tonnage chemicals range from 10 to 20 cents per 100 pounds.

Mucilaginous gum imports amounted to 3,585,967 pounds in July, a 38 per cent increase over the receipts for the preceding month according to data compiled by the Department of Commerce. Karaya, was well ahead of the other gums rising 406 per cent above June imports. However, the January-July aggregate tonnage for these gums was 5 per cent below that of the same months last year. Balsam receipts were off for July as compared with June and also for January-July as compared with last years' seven-month period.

Names of successful bidders for Japanese chemicals placed on sale on a sealed bid basis last month were expected to be announced momentarily. The Reconstruction Finance Corporation opened bids by more than a hundred firms for the products on November 14. While the proceedings were conducted in secrecy, it is known that from 30 to 40 bids were submitted for each of the four commodities, namely, 441 cases of refined menthol crystals of 60 pounds a case; 160 cases of refined camphor tablets of 50 kilos a case; 140 cases of refined camphor powder of 50 kilos a case; and 460 bales of strip No. 1 agar agar of 132 pounds a bale.

MENTHOL SHIPMENTS FROM CHINA

The menthol is said to represent about half of the total quantity of 25 tons that was allocated for the United States. The balance is expected to arrive here late in December and there is a strong possibility additional allocations will be made. Increasing quantities of menthol have also been arriving from China in recent months, thus principal shippers in Brazil may have to reduce their prices.

PRICES IN THE NEW YORK MARKET

(Quotations on these pages are those made by local dealers, but are subject to revision without notice)

ESSENTIAL OILS

Almond Bit, per lb.	3.50@	4.00
FFPA	4.75@	5.10
Sweet True	1.15@	1.50
Apricot Kernel	.70@	.75
Amber, rectified	2.25	Nom'l
Angelica Root	120.00@	185.00
Anise, U. S. P.	1.25@	1.40
Imitation	1.75@	2.10
Aspic (spike) Span.	2.50@	2.75
Avocado	1.35@	1.40
Bay	1.35@	1.60
Bergamot	4.75@	5.25
Artificial	3.35@	6.00
Birch, sweet	2.50@	7.25
Birchtar, crude	5.50	Nom'l
Birchtar, rectified		Nominal
Bois de Rose	5.35@	5.75
Cade, U. S. P.	.90@	1.20
Cajeput	2.50	Nom'l
Calamus	20.00@	22.00
Camphor "white" dom.	.95@	1.00
Cananga, native	9.25@	10.00
Rectified	11.00@	11.85
Caraway	6.10@	6.75
Cardamon	23.00@	23.50
Cassia, rectified, U. S. P.	3.25@	3.60
Imitation	3.75@	
Cedar leaf	1.10@	1.25
U. S. P.	2.65@	3.00
Cedar wood	1.20@	1.50
Celery	17.50@	18.50
Chamomile Roman	250.00@	
Cinnamon bark oil	32.50@	41.00
Citronella, Ceylon	2.00@	2.75
Java type	5.25@	5.75
Cloves, Zanzibar	1.55@	1.65
Coriander	20.00@	25.00
Imitation	12.00@	14.00
Croton	4.75@	5.00
Cumin	9.00@	11.00
Dillseed	7.00	Nom'l
Erigeron	2.25@	5.00
Eucalyptus	1.05@	1.40
Fennel, Sweet	3.75@	4.50
Geranium, Rose, Algerian	17.50@	19.00
Bourbon	17.00@	20.00
Turkish	9.00@	9.75
Ginger	10.50@	12.00
Guaiac (Wood)	2.80@	3.00
Hemlock	2.65@	3.34
Substitute	.55@	.60
Juniper Berry	6.50@	9.50
Juniper Wood, imitation	.70@	.85
Laurel	5.00	Nom'l
Lavandin	4.50@	5.10
Lavender, French	10.75@	17.00
Lemon, Calif.	3.25@	
Italian	3.75@	4.00
Lemongrass	4.25@	4.75
Limes, distilled	6.00@	7.00
Expressed	13.50@	15.00
Linaloe	5.75@	6.00
Lovage	95.00	Nom'l
Marjoram	6.75@	7.50
Neroli, Bigarde P.	350.00@	390.00
Petale, extra	265.00@	300.00
Olibanum	5.00@	5.70
Opopanax	30.00@	38.00
Orange, bitter	3.50@	3.95
Brazilian	1.70@	2.00
Calif., exp.	1.80@	2.00
Orris Root, abs. (oz.)	135.00@	
Artificial	36.00@	40.00
Pennyroyal, Amer.	3.35@	3.75
European	4.00@	4.10
Peppermint, natural	8.00@	8.35
Redistilled	8.60@	8.85
Petitgrain	3.90@	4.30
Pimento Berry	7.00@	7.60
Pinus Sylvestris	4.25@	5.00
Pumillonis	4.25@	4.75
Rose, Bulgaria (oz.)	42.00@	46.00
Synthetic, lb.	50.00@	55.00
Rosemary, Spanish	1.60@	1.75
Sage	2.65@	3.25
Sage, Clary	20.00@	22.00
Sandalwood, N. F.	18.00@	20.00
Sassafras, artificial	.95@	1.00
Ocotea Cymbarum	.95@	1.00
Snake root	27.00@	29.00
Spearmint	13.50@	14.00
Thyme, red	2.85@	3.25
White	3.00@	3.25
Valarian	70.00@	75.00
Vetivert, Java	50.00	Nom'l
Bourbon	35.00@	40.00
Wintergreen	3.65@	12.00
Wormseed	6.75@	7.10
Ylang Ylang, Manila	38.00	Nom'l
Bourbon	9.00@	16.00

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TERPENELESS OILS

Bergamot	16.00@	18.00
Grapefruit	65.00	Nom'l
Lavender	26.00@	28.00
Lemon	40.00@	45.00
Lime, ex.	85.00@	100.00
Distilled	58.00@	60.00
Orange sweet	95.00@	130.00
Peppermint	14.00@	14.50
Petitgrain	6.50@	8.00
Spearmint	15.00@	16.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	1.90@	2.75
Acetaphenone	1.65@	1.80
Alcohol C 8	4.25@	
C 9	14.00@	
C 10	4.25@	
C 11	11.50	Nom'l
C 12	4.25@	
Aldehyde C 8	12.00@	18.00
C 9	27.00@	30.00
C 10	7.25@	12.00
C 11	22.00	Nom'l
C 12	23.50@	28.00
C 14 (so called)	7.50@	9.00
C 16 (so called)	7.65@	8.25
Amyl Acetate	.55@	.75
Amyl Butyrate	1.00@	1.10
Amyl Cinnamate	4.50@	5.80
Amyl Cinnamate Aldehyde	2.35@	2.80
Amyl Formate	1.50	Nom'l
Amyl Phenyl Acetate	3.50@	3.75
Amyl Salicylate	.80@	1.00
Amyl Valerate	2.75	Nom'l
Anethol	1.75@	2.50
Anisic Aldehyde	3.35@	3.80
Benzoprenone	1.15@	1.30
Benzyl Acetate	.55@	.65
Benzyl Alcohol	.75@	1.00
Benzyl Benzoate	1.05@	1.20
Benzyl Butyrate	2.00@	2.25
Benzyl Cinnamate	5.25@	6.10
Benzyl Formate	3.50@	3.75
Benzyl-Iso-eugenol	9.50	Nom'l
Benzylidenacetone	2.10@	3.05
Borneol	1.80	Nom'l
Bornyl Acetate	2.25	Nom'l
Bromstyrol	6.00@	6.50
Butyl Acetate	.19½@	.19¾
Cinnamic Alcohol	3.00@	3.60
Cinnamic Aldehyde	.95@	1.10
Cinnamyl Acetate	8.75@	10.00
Cinnamyl Butyrate	12.00@	14.00
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	7.75@	8.50
Citronellol	6.50	Nom'l
Citronellyl Acetate	8.60	Nom'l
Coumarin	3.00@	3.50
Cuminic Aldehyde	7.75@	10.00
Diethylphthalate	.30	Nom'l
Dimethyl Anthranilate	4.55@	5.00
Ethyl Acetate	.35	Nom'l
Ethyl Anthranilate	5.50@	7.00
Ethyl Benzoate	.75@	1.00
Ethyl Butyrate	.75@	.90
Ethyl Cinnamate	3.60@	3.80
Ethyl Formate	.80	Nom'l
Ethyl Propionate	.80	Nom'l
Ethyl Salicylate	.90@	1.00
Ethyl Vanillin	5.25@	6.00
Eucalyptol	3.00	Nom'l
Eugenol	2.85@	3.35
Geraniol, dom.	6.25	Nom'l
Geranyl Acetate	5.10@	12.50
Geranyl Butyrate	8.50	Nom'l
Geranyl Formate	13.40	Nom'l
Heliotropin, dom.	3.75@	4.00
Hydrotropic Aldehyde	7.25@	7.75
Hydroxycitronellal	17.50@	21.50
Indol, C. P.	20.00@	23.00
Iso-borneol	1.00@	1.25
Iso-butyl Acetate	1.25@	2.00
Iso-butyl Benzoate	1.50@	2.60
Iso-butyl Salicylate	2.70@	3.00
Iso-eugenol	3.85@	4.00
Iso-safrol	1.50@	2.00
Linalool	7.35@	7.75
Linalyl Acetate 90%	5.20@	6.90
Linalyl Anthranilate	15.00@	
Linalyl Benzoate	10.50@	
Linalyl Formate	13.00@	15.00
Menthol, Brazilian	8.00@	8.15
Methyl Acetophenone	1.50@	1.80
Methyl Anthranilate	2.25@	2.40
Methyl Cellulose, f.o.b., shipping point	.60	Nom'l
Methyl Cinnamate	2.50@	3.50
Methyl Eugenol	3.50@	6.75
Methyl Heptenone	3.50	Nom'l
Methyl Heptine Carbonate	45.00@	60.00
Methyl Iso-eugenol	5.85@	10.00
Methyl Octine Carbonate	24.00@	30.00
Methyl Paracresol	2.50	Nom'l
Methyl Phenylacetate	3.00@	4.10
Methyl Salicylate	.37@	.38
Musk Ambrette	4.25	Nom'l
Ketone	4.35	Nom'l
Xylene	1.50@	
Neroline (ethyl ether)	2.00@	2.70
Paracresol Acetate	2.55@	3.00
Paracresol Methyl Ether	2.60@	2.85
Paracresol Phenyl-acetate	6.00@	7.25
Phenylacetaldehyde 50%	2.75@	
100%	4.40@	
Phenylacetic Acid	2.00@	2.25
Phenylethyl Acetate	2.25@	3.10
Phenylethyl Alcohol	2.80@	3.00
Phenylethyl Anthranilate	16.00@	

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UNCLE

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GRANDMA

GRANDPA

FATHER

MOTHER

BROTHER

SISTER

NEPHEW

NIECE

SON

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This Christmas, put at least one Savings Bond under the tree for someone you love.

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Phenylethyl Butyrate	3.65@	4.00
Phenylethyl Propionate	3.45@	3.90
Phenyl Valerianate	17.50	Nom'l
Phenylpropyl Acetate	5.50@	5.70
Santalyl Acetate	20.00@	22.50
Scatol C. P. (oz.)	5.35@	6.00
Styrolyl Acetate	3.00	Nom'l
Vanillin (clove oil)	4.50@	4.65
(guaiacol)	2.35	Nom'l
Lignin	2.35	Nom'l
Vetivert Acetate	75.00@	
Violet Ketone Alpha	18.00	Nom'l
Beta	15.00	Nom'l
Methyl	6.50	Nom'l
Yara Yara (methyl ester)	2.00@	3.10

BEANS

Tonka Beans Surinam	.85@	.95
Angostura	1.70@	1.80
Vanilla Beans		
Mexican, whole	11.50@	12.50
Mexican, cut	10.50@	
Bourbon	8.50@	9.50
Tahati	4.50@	5.00

SUNDRIES AND DRUGS

Acetone	.08@	.11½
Almond meal	.25@	.35
Ambergris, ounce	10.00@	12.00
Balsam, Copaiba	1.25@	1.30
Peru	1.20@	1.30
Beeswax bleached, pure		
U. S. P.	.68@	.70
Yellow, refined	.60@	.62
Bismuth, subnitrate	2.00@	2.13
Borax, crystals, carlot ton	55.50@	58.00
Boric Acid, U. S. P., cwt.	6.95@	7.55
Calamine	.18@	.20
Calcium, phosphate	.08@	.08¾
Phosphate, tri-basic	.09@	.10
Camphor, domestic	.76@	.96
Castoreum, Canada	12.00@	15.00
Cetyl, Alcohol	1.75@	1.80
Chalk, precip.	.03½@	.06½
Cherry Laurel Water, jug, gal	2.60@	3.10
Citric Acid	.21@	.24
Civet, ounce	13.00@	20.00
Clay, colloidal	.07@	.15
Cocoa, Butter, lump	.25½@	.27
Cyclohexanol (Hexalin)	.30@	.50
Fuller's Earth, ton	15.00@	33.00
Glycerin, C. P.	.55¼@	.55¾
Gum Arabic, white	.29@	.32
Amber	.13¾@	.14½
Powdered, U.S.P.	.19½@	.21
Gum Benzoin, Siam	5.00	Nom'l
Sumatra	1.40@	1.55
Gum Galbanum	1.00@	1.10
Gum Myrrh	.48@	.50
Henna, pwd.	.35@	.40
Kaolin	.05@	.07
Labdanum	5.00@	7.00
Lanolin, hydrous	.25@	.26
Anhydrous	.28@	.29
Magnesium, carbonate	.09@	.10¾
Stearate	.50@	.52
Musk, ounce	45.00@	50.00
Olibanum, tears	.26@	.35
Siftings	.12½@	.14
Orange Flower Water, gal.	1.75@	2.25
Orris Root, Italian	.24@	.30
Paraffin	.06@	.09
Peroxide	1.10@	1.75
Petrolatum, white	.06¼@	.08½
Quince Seed	1.50@	1.75
Rice Starch	.10	Nom'l
Rose Leaves, red	3.45@	4.00
Rose Water, gal.	6.50@	8.00
Rosin, M. per cwt.	8.80@	
Salicylic Acid	.35@N	.40
Saponin	1.75@	2.00
Silicate, 40°, drums, works, 100 pounds	.80@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb. 58% light, 100 pounds	1.53@	2.35
Hydroxide, 76% solid, 100 pounds	2.90@	3.75
Spermaceti	.54@	.55½
Stearate Zinc	.48@	.50
Styrax	1.20@	1.35
Tartaric Acid	54½@	.55
Tragacanth, No. 1	3.80@	4.00
Triethanolamine	.19½@	.20½
Violet Flowers	2.00	Nom'l
Zinc Oxide, U. S. P. bbls.	.12½@	.14

OILS AND FATS

Castor No. 1, tanks	.27@	
Cocoanut, Ceylon type, c.i.f., tanks	.23	Nom'l
Corn, crude, Midwest, mill, tanks	.26½@	
Corn Oil, distilled, drums		Nominal
Cotton, crude, Southeast, tanks	.26@	.26½
Grease, white	.21⅞@	
Lard	.1973	Nom'l
Lard Oil, common, No. 1 bbls.	.14	Nom'l
Palm Niger, drums	.0865	Nom'l
Peanut, blchd., tanks	.1521	Nom'l
Red Oil, distilled, drums	.29¾@	.32¼
Stearic Acid		
Triple Pressed	.36¼@	
Double Pressed	.33½@	
Tallow, acidless, barrels		Nominal
Tallow, N. Y. C., extra	.21¾@	
Whale oil, refined	.1232	Nom'l

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Marketing Drugs and Cosmetics

by LOUIS BADER, PH.D.
Associate Professor of Marketing, New York University

and

SIDNEY PICKER, M.C.S.
National Merchandisers

This is the tenth installment. The eleventh will appear in the January issue.

IT was difficult to pass a law against price cutting because of consumer belief that it is not to their interest to have resale price contracts. However, now that such laws have been passed and are operating in 45 states, it is up to manufacturers, wholesalers, and retailers to see to it that it is not abused. It is not the purpose or intention of this volume to discuss the general economics of price maintenance from the point of view of the public. In the main, however, it has been recognized for years that this policy is beneficial to the industry and as such, beneficial to the individual manufacturer. For this reason price maintenance is probably here to stay for a while and the department stores that have been doing their utmost to stop price maintenance will begin to look around for other means of catching the public eye. The first reaction was a series of comparative advertisements showing the difference in values between privately branded merchandise and nationally advertised goods. However, the fears of manufacturers in that direction should not be serious. First, when true costs are calculated on some of these privately branded products and the costs of advertisements are charged against the particular product features rather than against the whole department, prices on these special competitive products will rise. Then, most drug and toilet products are purchased on convenience, and if a box of aspirin or a bottle of milk of magnesia is required, the nearest outlet will get the business. Furthermore, no matter how large a store organization can grow, no matter how perfect their internal setup, the mass of the buying public will prefer a Squibb Aspirin, say, to an "X" product, Phillips' Milk of Magnesia to a "Y" product, in the same way that men prefer a Manhattan shirt to a cheaper grade even with a well-known private retail label.

Here is something to remember when it comes to the quantity influence against brand consciousness. For years, the 5¢-and-10¢ stores have had large packages of various toilet goods on their counters competing with name brands. For more than ten years now, the sales of known brands have increased and the sales of the economical larger sizes have decreased, and even in depression years. It is admitted in toilet goods marketing that the public generally considers price and quality synonymous although that may not be true. Similarly with drugs, well-established products have little to fear from the disarrangement of retail prices aggravated temporarily by price advertising. Drugs and some toiletries are usually bought because of vanity or immediate need and reducing prices in that field never has been known to stimulate the use of, say, castor oil or other medicinals. Since most products purchased are bought because of habit, need, or vanity, the question of prices is not important. After all, the per capita purchase of drug store products for the entire country was only about $21.00 in 1945 and even a 10 per cent increase[11] in prices of such products would have less effect on family purchasing power than a 1¢ sales tax.

The policy of maintaining a comparatively high retail price in the drug and cosmetic field may be followed for a long time on a profitable basis. When drugs are required to cure an illness rather high prices can be asked, and they will be paid. Since they are not ordinarily part of the daily regime such expenditures do not bulk large and no great effort would be made to cause a reduction. Where a product may become part of one's daily living, as in the case of vitamin capsules, then consumer pressure is brought to bear to lower prices. With cosmetics again we have the cause of an item not bulking large in a family's living. Consequently, high prices can be asked for the small individual amount annually purchased. Cosmetics are also in the nature of luxury products and in that category may command a high price. Even when we experience a depression and a sharp falling off of income not much protest against price may be made. Those who can still buy because of beauty appeal will usually be willing to pay and those who cannot afford to buy just stop purchasing and find that they manage to live just as well.

Despite the fact that such policy, from the profit point of view, may well be followed necessarily for a long time and since this is a book written to help those who are in or want to get into the business of making and marketing some one of the many pharmaceuticals or cosmetics it seems to the authors some very realistic things should be said about this business of price maintenance. We ought to be very frank and for one thing throw out the trimmings that tend to camouflage the movement as one of fair trade.

It is nothing of the kind. It is, as the hearings held before both the Senate and House committees branded it, a selfish proposition. Selfish from all sides. The proponents want such legislation to secure better prices and, therefore, better profits from the goods they make and sell. For this, businessmen cannot be hated. The business opponents were against the legislation because, being in a position to sell at lower prices and make the same profit, they want to sell at lower prices to attract more trade, to do more business, and to make even greater profits. No more reason to hate them than the others. The consumer wants to buy at the lowest possible prices to get the most goods for his money, and again no more reason to hate him than the others. The arguments then pro and con are for selfish reasons. That being the case, can the proponents of price maintenance having won out on this selfish legislation expect the others to acquiesce and do nothing further? The answer, of course, is no. To begin with, the legislation was secured by a comparatively small pressure group, the retail druggists. Even if they were joined wholeheartedly by all the manufacturers they would still be a small group. Next, the legislation could not pass through Congress on its own merits—It had to be attached as a rider to another bill. There is no reason for the opponent to have any respect for it.

The business opponents are meeting the issue by pressing the sale of their own brands or no-brand merchandise. According to some reports they are having a fair measure of success in these efforts. Manufacturers of branded advertised merchandise have been obliged to reduce their prices on some products.

The consumers have not yet become fully awake to the fair-trade acts and what they may mean to them. They are, however, in process of formation into possibly the strongest organization they have yet assumed.[12] When fully aroused and in fighting form their attack will be a charge that government has legalized monopoly. A long explanation here is necessary. The space at our disposal is not enough. The reader can perhaps get the point from the following: The concept of monopoly in economics has been broadened considerably from the old concept of unified selling. The economist has developed lately the term *imperfect competition* by contrast with the classical economist concept of *perfect competition*. These two developments are revolutionizing economic theory and out of it is slowly developing the following ideas:

1. We do not have and probably never have had perfect competition. Consequently, the so-called "unseen hand" that guides men economically to do that which is best for them and which is also best for society is about as unrealistic as anything could be.

2. From this then develops the idea that everything is done by men in their own interest, and the one who is most able, sagacious, or strong financially secures more than others. And that when several organize together they always win out to their advantage unless other groups are formed who match them in every way.

3. From this develops the idea that organized society must step in and regulate and control economic activity to an extent that only few men in the past have visualized[13] if the consumer as such is to be protected as he should.

Price legislation leads to more imperfection in competition, and since there is monopolization of one kind or another in almost all business activity as it is, this legislation, unless wisely handled, may be the fillip that brings about the kind of governmental interferences most of us will dread. How may it be handled? Generally the advertised list prices of all drugs, medicines, and cosmetics are too high. Some evidence of this is presented in the early part of this chapter. Other evidence is to be found in the facts of price cutting itself. Nearly everytime that a product is "footballed" that is a sign the listed price is too high. The manufacturer then, with assurance through this legislation that his prices will be maintained, can now lower his prices to a point that bears a close relation to cost.[14] Continued reduction will be evidence to the consumer that will probably satisfy him that business is trying to serve as well as to make profits.

The retail druggist has, of course, his contribution to make. If he proposes to sit back and permit legislation to take the place of efficiency and good merchandising, in the long run he will find it does not pay. Marketing costs are being scrutinized and criticized more closely and severely than ever before, and unless the druggist joins in the movement to cut costs he cannot expect much consideration from the consumer when the latter is in the saddle.[15] In a democracy and in the long run the consumer, because of numbers, must win out. It will pay both manufacturer and dealer, therefore, to leave no stone unturned to reduce costs.

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[12] The Drug Trade Survey of the effect of fair-trade contracts on prices revealed only a one per cent change for the whole country.

[13] See Bader and Wernette, "Consumer Movements & Business," *Journal of Marketing, July, 1938.*

[14] For a fuller treatment and a short bibliography see L. Bader, "The Economics of Recent Price Legislation," *Journal of Marketing, Oct., 1938.*

[15] Some evidence of a move in this direction was suggested by the Report of the New York State Pharmaceutical Association and the statement of C. I. Luckman of the Pepsodent Co., that a survey conducted for his company showed a saving to the public of $500,000 during 1937 as compared with 1935. Reported in *Advertising Age*, June 27, 1938, p. 27.

[16] See part played by the consumer in passage of the 1938 Food, Drug, and Cosmetic Act and the Wheeler Lea Act. For how powerful consumers may become, see Bader and Wernette in July, 1938, issue of *Journal of Marketing*. See also *Does Distribution Cost Too Much*, Twentieth Century Fund: New York, 1939.

CHAPTER 17

The Problem of Financing

This chapter deals with the capital requirements necessary to the establishing of a business in the drug and cosmetic field. One may start with a small amount and by ploughing back profits finally own a relatively large enterprise. This field lends itself well to this. To begin with many of the drug and cosmetic products do not cost much to make. Or they can be made by a well established "producer for the trade," and consequently no investment need be made in manufacturing. Marketing of the product is the more important part of this business and large capital may be required for this. In any event when allocating one's capital in this field provision must be made to allow enough for the marketing of the product, otherwise failure is likely to follow. But even here not much, relatively, is required. One may start marketing on a small scale, ploughing back profits or securing capital from others as demonstration is made that one has a good product and that it can be successfully marketed. Gross profits are large in this business but net profits may be disappointingly small. Careful budgeting especially of marketing expenses is necessary for success.

AFTER the manufacturer has decided on his product and package, it becomes necessary to consider manufacturing facilities and the financial requirements to produce and to market the product successfully. This necessitates a consideration of the allocation of capital to production, to marketing, and to providing the necessary general organization for the business. Many enterprises fail apparently because of inadequate capital when the fact is they have neglected to analyze the difficulties faced by an enterprise, and have, therefore reached for the moon. In short the business has been characterized by inefficient management.

NECESSARY MANUFACTURING FACILITIES

To the manufacturers who are embarking on the marketing of a drug store packaged product, the production problem, in most cases, is comparatively simple. There are many firms that produce under private brand names merchandise of almost every type and character. That means that it is possible, in most cases, to enter the field with a comparatively small investment, or none at all, in manufacturing plant and equipment. Merchandise can be purchased all made up, thus enabling the businessman who is commencing to determine at all time precisely what his product costs, and also to know that this figure will remain almost constant over a period of time. In the toiletry field, the practise is widespread for manufacturers to have merchandise made up for them and delivered in complete packages. This policy was further spread because of the peculiarities of the cosmetic tax that was in effect from 1932 to 1941.

The larger pharmaceutical houses like: Parke, Davis & Co., Detroit, Mich.; Eli Lilly & Co., St. Louis, Mo.; and others are ready to manufacture and package special lines for manufacturers. Hundreds of smaller firms also are to furnish complete packages in practically any phase of the industry.

Generally it is inadvisable, unless there are special technical and mechanical difficulties involved in the manufacturing of the product, or the owner does not want to reveal the process or other valuable characteristics of the product, to invest capital in manufacturing plant or other equipment. In fact one of the authors knew intimately of a business in which only a few hundred dollars were invested. The owner bought, as one illustration, aspirin tablets by the thousand and packed them in boxes, which were fastened on cardboards and peddled in stores on a consignment basis. Once or twice a week the stores were visited, collections were made, and new cards were left to replace the old. This same procedure was followed with other items, and finally a fairly large line was worked up and sold by salesmen engaged on a commission basis, who were secured through inexpensive advertisements in *Specialty Salesman*. For a long time one individual handled all the work, using part of a loft of a factory building in the rear of other buildings. The business furnished a comfortable living for several years and was abandoned only when another opportunity arose which paid much better. The other author was intimately connected with a development that began in the rear of a drug store and finally developed into a business manufacturing most of its line, employing 350 people, and requiring an investment of $500,000 to keep operating. Then there is the extreme case of the producer of Life Savers, who also began in the rear of a drug store (or in his kitchen) and built up a worldwide business that was sold later for a sum reputed to be over $1,000,000. More recently we find a dentifrice that was started by a dentist, promoted and backed by one of the smaller wholesale druggists in New York City, and later sold to one of the large firms for a substantial sum. Generally, the more successful items have been one-man propositions, carried to substantial proportions, and then sold to the larger houses. A fair proportion of the most successful items in the last twenty-five years have been developed by smaller groups—until successful—and then brought out by larger companies.

The economies that can be effected by manufacturing for oneself do not begin to operate until large sales volume has been attained. Offsetting the savings that may occur from lower costs growing out of one's own manufacturing are the facts that firms doing private brand work are fully equipped for handling most manufacturing requirements; their manufacturing costs are at a minimum, because they are already engaged in large-scale operations. Usually they can supply the merchandise as cheaply as the prospective manufacturer himself could, were he to start with a complete plant of his own, developing large-scale production as sales volume slowly increased.

A manufacturer can turn over his capital, when used for marketing only, many times more frequently than he can when engaged in both manufacturing and marketing. A safe guide for the newcomer would be to estimate the turnover of capital in the selling end, compare this with the turnover in the manufacturing end, and calculate the difference in gross profit. Generally it would hardly pay him, unless he is a very able technician, to figure on a plant of his own until his sales were at least $100,000 per annum.

It is difficult in a general discussion such as this to indicate what minimum sales must be reached before it is economical to engage in manufacturing. An overhead cost of at least 10 per cent will prevail in most manufacturing establishments; to this must be added the cost of technical supervision, plant expense, and interest on investment. The combined sum would total many thousands of dollars for even a moderate-sized plant. With some products, there are firms who to this day do not have their own plant even though sales volume may reach a million dollars a year. Very few firms in the industry, for instance, make their own rouges and lipsticks, or other cosmetics, leaving this part of the work to the trade houses. This was being done even before the tax on cosmetics went into effect in 1932.

The overhead expense and capital frozen in unnecessary assets caused by factory investment are reduced to a minimum, and are frequently eliminated entirely, when the product is purchased from a private brand manufacturer. The capital invested in fixed assets becomes negligible, and funds are left free to be employed in the more important phase of this type of business—marketing the product.

CAPITAL REQUIREMENTS FOR INVENTORIES

Even though a manufacturing plant is not built or acquired, capital requirements for a large sale volume are still substantial. Many drug products require ageing. They require time tests to determine whether they will stand up under dealer and consumer storage conditions. Perfume, for instance, is aged six months or more. Some drug products are aged for a year, and often longer. The necessary inventory requirements of many drug products absorb a part of the manufacturer's capital. Further capital is required to undertake the necessary sales promotion to secure the desired exploitation of the market. It is well to consider carefully the capital requirement of this phase of the undertaking, so as to be sure of sufficient finances to reach the desired goal. Many merchandising campaigns have fallen down and become flat failures, with success in sight, because of the lack of adequate working capital at this point. Inventory and marketing capital requirements become very important especially when they represent a considerable proportion of the available funds.

GOVERNMENT REGULATIONS

When a manufacturer plans to market his own product, there are, in addition to the various label and packing regulations mentioned in Chapter 5, sundry other restrictions that must be taken into consideration.[1] Products that contain narcotics can be manufactured only under government supervision and regulation. Products in the toiletry field that contain denatured alcohol, which is purchased under governmental restrictions, also can be manufactured only under the specific regulations that are issued by the Bureau of Internal Revenue. Permits for the purchase of alcohol, both the denatured type for the external preparations and the pure grain for medicinals, can be secured only from the Bureau of Internal Revenue. When alcohol is used certain regulations covering the type of equipment, the amount of capital investment, the methods of manufacture, and the mixtures permissible must be observed. Furthermore, governmental regulations provide that raw materials of this kind must be kept in separate rooms, under lock and key, properly safeguarded against theft, every possibility of destruction, and subject to governmental inspection at all times.

A complete copy of regulations and the necessary forms required may be obtained from the local division of the commissioner of Internal Revenue, Alcohol Unit. These regulations are changed from time to time, so the latest forms should be obtained. A prescribed form of records and reports must be used and held available for checking, and bonds must be furnished to obtain alcoholic raw materials.

Very often the existing private-brand manufacturer is in a better position to comply with all these requirements: he can deliver the completed products many months sooner and he can produce all the items wanted at considerably lower cost, even though he is making a profit.

RELATION OF SALES VOLUME TO COST OF PRODUCTION

While much can be said against doing one's own manufacturing, nevertheless, entrusting a business to another plant carries with it the danger that pertinent information about a business may be given to competitors or the manufacturer himself may take advantage of the information that must be passed on to him. This, however, would probably rarely happen. The established business houses could not afford to do that; they can be trusted. The names of some of these concerns have already been given. But many more may be secured from the files of trade magazines like *American Druggist*, AMERICAN PERFUMER, *Drug and Cosmetic Industry*, and *Drug Trade News*.

Where sales volume has reached the point where the cost of supervision and investment in facilities for complete control of a product is less than the cost of having the product manufactured elsewhere, then and then only, is it advisable to set up your own plant. At that time, it will be found that the investment in machinery is not high, usually production is large, and most of the work is performed by low-priced unskilled labor.

The Federal Fair Labor Standards Act of 1938, usually called the Wages and Hours Bill, has been followed by state acts that can profoundly affect the wage situation. The

wage scales have now reached the minimum hourly rate of 57½¢ and possibly will go higher.

DOING ONE'S OWN MANUFACTURING

LOCATION OF PLANT: The location of the plant is a problem that is important in the financial success of a product. The location of the plant should be governed by at least one if not all three of the following factors: accessibility of raw materials; proximity to labor supply, and convenience to the consuming market.

Most drug merchandise is sold delivered by the manufacturer. This is done in order to make the retail and wholesaler price uniform in all parts of the country. Therefore, if the largest potential market is found to be in a particular area, it might be well to place the plant in that area. However, the source of raw material and labor supply must be considered. Raw materials may be a long distance away. The expense of delivering them may in some cases more than offset the savings to be made in locating the plant near the consuming market. The "center of gravity" method may be used, however, to locate warehouses in which to store stock for quick delivery.

If technical labor is required, then the factory may have to be placed where such labor is readily available. Scarcity of labor will naturally make for high costs and may result in inadequate production when sales demand large output.

PURCHASING OF RAW MATERIALS: Provision must be made by the manufacturer for supplies of raw material of the kind, in the quantities, and at the prices necessary for economical production. Sometimes he will be faced with a so-called "seller's market" with, at times, basic drug commodities cornered. At other times he may find himself in a "buyer's market." It is necessary, therefore, to make a careful study of market conditions and to attempt to forecast what is likely to happen so that proper provision may be made for one's requirements and that materials may be purchased properly.

Raw materials and containers should be bought ordinarily for a reasonable period in advance. Since they can be purchased under contract for specific future deliveries, requirements covering a period of time can be provided for. Even containers that are specially designed can be purchased on a future delivery basis in accordance with a manufacturer's needs. In buying materials and containers in this manner it is quite obvious that costs can be lowered because the advantages of large-scale production are secured without the investment of large capital.

By "reasonable period" we mean for a sufficient time ahead to obtain best prices on maximum quantities but a manufacturer must watch out not to hold excessive inventories. The price advantage should be sufficiently large to cover overhead costs incident to holding large quantities and losses from possible price changes. Most special packages like containers, tubes, and cartons can be purchased on contracts providing for deliveries over a maximum period of 12 months. A purchase in large quantities means lower costs, contracts for 6 or even 12 months' requirements may be advisable. However, if there is any uncertainty as to sales volumes, turnover, or permanency of packaging, it is better not to make commitments for too large a quantity and too long a time. It is preferable to pay a higher price per unit on smaller purchases until one is assured of actual needs and rate of consumption.

Purchasing instead of producing one's own bulk products—drug or cosmetic—carried with it the danger of inadequate facilities for prompt deliveries, interference with deliveries because of other customers' requirements, inability to have complete control of one's product, and a possible lowering of quality unknowingly.

PRODUCTION DIFFICULTIES AND EFFECT ON CAPITAL: The fact that a product has been successfully produced in a laboratory does not necessarily mean that it can be produced economically in a factory. It may develop "bugs" either in production or durability that eventually may prove not only dangerous but even ruinous. For this reason it is advisable to be assured of the soundness of the product before large investment is made in plant for its production and widespread sale. While practical tests of the product are being made, it can be manufactured in independent plants.

COST ANALYSIS IN RELATION TO PROFIT MARGINS: It is obvious that usually in order to arrive at the proper selling price of merchandise it is necessary to determine carefully the production cost, the expenses of the various departments of the business, and the amount of profit that ought to be earned. For drug products, however, it is impossible to fix prices based on the usual cost factors. The market price of many drug products is determined in large part by competition and by the marketing plans as to the price bracket in which you propose to sell. It is, therefore, necessary in such cases to discover the market prices of competing products first and then to try to adjust costs to fit the prices at which such products must apparently be sold. Ordinarily firms in other fields will determine the various costs, fix a price to realize a profit, and attempt to sell goods at that figure. The fixing of prices at present is governed by M.P.R. 393. This follows the method of using the competitor's product as a yardstick if you have no similar product of your own with which to compare. But the following method is the one usually employed with drug or cosmetic products: You set a retail price on your drug article fixed by competitive conditions, at, say, $12.00 per dozen. Then the customary price to the dealer, to allow for his markup, becomes $8.00 per dozen. If you are going to do business through the wholesaler, the minimum discount for which he will carry the product is 16 2/3 per cent, though frequently he may require a larger discount. Most manufacturers figure a discount of 16 2/3 per cent and often as high as 20 per cent to persuade the wholesaler to push the product. Assuming a 16 2/3 per cent basis, you will get little more for your merchandise than $6.67 per dozen, regardless of what it costs. In other words, the retail selling price, rather than the cost, fixes the price that you are going to get.

These figures do not cover the costs of deals, free goods, and special discounts to encourage increased purchases. Deals are a form of merchandising discount or reduction in price and must be considered as such. In connection with deals or special allowances it should be noted that in interstate business you are subject to the Robinson-Patman Act, and all such allowances must be granted to all dealers in proportion to their purchases, and under the act the burden of proof is on the seller.

In setting a price of $1.00 on merchandise, we are as-

suming that by far the greatest number of competitive articles in the field are found in that price class. Before you set a price, therefore, you must determine what price market you are going to operate in, as it is the market that you are going after that governs the costs you can pay to manufacture and market the product. Experiences show that usually the drug product manufacturer figures one-third of the net price for materials and manufacturing; one-third for selling and advertising; and one-third for overhead and profit. Given capable management, this allocation is safe figuring. In some cases the merchandise cost may be lower than the one-third figure, and, frequently, where this condition prevails, the selling and advertising expenses are likely to be considered higher. Some products can be given a retail price many times the cost of manufacture. This means a large percentage of the net price is available for sales promotion, thus increasing the possibility of successful marketing.

While the preceding gives the margins usually resorted to, these do not apply in every case. Medicinal products, particularly proprietaries and patents, often permit a wider margin of profit and have a lower manufacturing cost than do products like sundries, toiletries, oral preparations and products of costly raw material content. There are also some variations possible in the makeup of a package and savings in the selling methods used that result in a gross profit large enough to allow for intensive exploitation. In any case, the most important thing in all marketing and manufacturing situations is the necessity of keeping within the budget that is finally set if profits are to be realized.

ORGANIZATION FOR PROFITABLE OPERATION

There are many good products, suitable for certain purposes, the sales of which have not been successful, not because there had not been sufficient money placed behind them to do the sales promotional work necessary to make them successful. Advertising or dealer promotion alone, however, will not make a profitable business. Mere volume will not produce profit. Profit is the result of many seemingly unrelated factors, and the failure to consider all these factors—those of finance, organization and control—has resulted in disaster to many enterprises embarking in this field, and even some that began with the greatest possibility of success. Mention may be made here of La Lasine, a mouth wash that was introduced to the public with apparently a complete national, retail and wholesale tie-up, and a tremendous advertising campaign, yet whose sales are reputed never to have reached a figure more than 25 per cent greater than the advertising appropriation spent to introduce it. What the cause of failure was—poor product, poor packaging, inadequate sales coverage or poor advertising—we do not know. The losses in this enterprise ran high and this is but one example of many similar plans that went wrong.

BUDGETING: It should be borne in mind, at all times, that no business can be successful unless the capital invested is sufficient to perform the necessary operations. Merchandising of drug store products is so highly speculative, and investment in advertising, so intangible, that banking cooperation is not always easy to obtain. His own capital invested in the enterprise is the best hope for the manufacturer. Lack of capital, as a study by the University of Colorado which follows discloses, is one of the chief causes of business failure in most industries. This reason is even more important in the drug field where so much capital must be placed in speculative intangibles.

Cause of Failure	Percentage of Total	
Personal	1930	1929
Lack of capital	31.6	37.2
Incompetence	26.3	31.4
Inexperience	5.3	4.9
Unwise credits	3.5	2.1
Competition	3.5	3.9
Failure of others	3.4	1.5
Neglect	.9	.9
Extravagance	.7	.5
Non-personal		
Specific conditions	22.4	15.6
Speculations	1.2	.3
Fraud	1.2	1.7

The report of the University of Colorado in its major cause of failure coincides with a report of Dun and Bradstreet made for the National Wholesale Druggists' Association covering the year 1943. The principal factors contributing to drug store closings were:

Cause of Closure	Percentage
Insufficient capital at start	54.0
Poor personality	33.3
Failure to keep adequate records	29.9
Inexperience	26.4
Too high management withdrawals	27.6
Competition	36.8
Poor health, use of liquor, mental troubles	32.2

Other causes were listed, some of which might have been included in the above. Obviously, more than one factor were named for each store that closed.

The competent individual, and that does not necessarily mean the experienced one, will have adequate capital to accomplish what he sets out to do. The prospective manufacturer can obtain competent individuals who have learned from experience and the trial-and-error method what the pitfalls of merchandising are and how to avoid most of the errors that have in recent times strewn the business highway with the wrecks of enterprises that started auspiciously.

The amount of capital invested in the business should be segregated according to a carefully-drawn budget, which should determine:

1. The capital required for original designs, plates, sketches, and preliminary art work.
2. The amount of capital, if any, required for plant and equipment.
3. The capital necessary for raw material and finished inventories.
4. The capital available for advertising and selling.
5. The remaining capital available for general business overhead, accounts receivable and prepaid expenses.

Because of the fallacy with regard to large drug product profits, because of the large margins of profit indicated in some cases, many individuals and firms embark on the marketing of drug store products with inadequate capital and this seems true more here than in most other types of business activity. For a period of time they seem to make progress and then discover suddenly that they have reached an impasse; they cannot go ahead because their working capital has been used up and the assets that still remain are frozen in bills receivable, merchandise inventories, and in stock in the hands of wholesalers still unsold.

One of the reasons that there are so many competitors in the drug field, particularly in the toiletries and other nonsecrets and proprietaries, is that the capital required to start in the business is seemingly small, since in many cases, at the start particularly, machinery and equipment are not purchased. As stated, many products have been started over the kitchen stove with merely an enamel pot and a few dollars' worth of raw materials. The fact that a fortune can be made seems to be the mirage of many who add to the thousands of products on the market. They feel that because the raw material costs so little, the package itself often being worth more than the contents, the business is just a question of making the product, and that's all.

To the inexperienced and uninitiated, to the newcomer in manufacturing these products, there should be a warning: please remember that the strength of this business is also its weakness. Where other businesses require thousands of dollars for investment in bricks and mortar and machinery, the drug product manufacturer must invest thousands of dollars in creation of good will. The banker does not consider the investment of thousands of dollars in advertising worth much when it comes to granting a loan. He can *see the factory*, although it may be reduced to scrap value because of obsolescence in a few months by some new discovery. The good will in the minds of the public for any particular product, built up by years of advertising, the banker cannot see, although it may last for a long time. It usually gains momentum as the advertising expenditures are increased, and loses momentum as the business becomes careless and inefficient in its advertising to the public.

Like many other businesses, drug enterprises get into trouble because of financial indigestion, that is, not being able to handle properly what business has been developed —the attempt to digest far more than is within the scope of the manufacturer's capacity, financial and otherwise.

The first and foremost mistake, as a rule, is putting too much capital in manufacturing facilities and equipment. From this follows directly excessive manufacturing overhead. That is why particular emphasis was directed to the inadvisability of starting a plant. A business should ordinarily wait until it has established itself, and has acquired sufficient volume to warrant owning a manufacturing plant. The profit that might be paid to an outside manufacturer would be less than the danger of tying up too much capital before attempting to do the more important job of marketing.

Then there is the question of excessive purchases of either raw material or containers. Buying in large quantities of some products means reduction in prices. However, time passes quickly. There are occasions when selling efforts do not prove to be as successful as expected; the end of the contract period draws nigh and manufacturers find that they are compelled to take in merchandise on previously placed contracts, at inopportune times. This results in the choking up of a business—merchandise bills come due—excessive inventories are on hand, and the movement of merchandise from retail channels is slow because capital is not available to continue with merchandise plans that were made and only partially carried out.

PROBLEMS IN ALLOCATING CAPITAL TO FIT MARKETING REQUIREMENTS: The drug manufacturer starts his enterprise full of hope and confident of his ability to convince the public to buy his wares. He has selected an attractive product, has packed it alluringly, and has embarked on his merchandising and marketing campaign. He proceeds to call upon the wholesaler, and suddenly finds the wholesaler will not buy merchandise from him—that the wholesaler will take his goods only on consignment or at best after considerable selling effort on a guaranteed-sales basis. This means that he ties up capital in an unexpected quarter. Until the merchandise has been sold by the wholesaler, the latter will not pay for the goods. The manufacturer invested not only in merchandise, but also in sales, advertising, and general overhead expenses; he receives no cash return from his wholesaler. However, he is still confident. He proceeds to make the necessary sales calls on the retailers, begins his advertising campaign, and expects the merchandise to move. He is reasonably successful, but in some cases the dealer has not sold the goods, and inasmuch as the wholesaler is demanding payment, the dealer, especially if he obtained merchandise on credit, returns it to the wholesaler. The wholesaler then finds it unnecessary to buy additional merchandise; he merely reships out what was previously sold or consigned to him.

Sometimes, the advertising campaign is not effective and an abnormal amount of goods remains on the shelves of the wholesalers and dealers and the selling job must be done a second time. Advertising campaigns are expensive. Merchandise and sales promotion may attempt to cover too much territory and so prove costly. Inefficient salesmen may be employed. They receive salary and expenses for two, three, or four weeks, then are found inefficient and are let go. All this accumulated expense cuts into capital and cuts down the possibility of adequate turnover. Therefore it is absolutely essential for the manufacturer to determine in advance just how far he can go with his resources.

SUGGESTIONS FOR CONTROLLING CAPITAL ALLOCATIONS: The following from a recent report of the Bureau of Census can be used in allocating capital: "The total population of 95 metropolitan districts in the United States is 54,589,972 and the total area is 3,631,300 square miles. Of the total population 69.3 per cent is included in central cities and 30.7 per cent is included in the adjacent territory or civil divisions outside of the limits of these central cities."

One could easily pick out from these his marketing territories. The particular market that is close to one's sources of supplies or one's factory would be a good metropolitan unit to be used for trial purposes. Here one might discover the turnover of his capital in a metropolitan market. Study should then be made of the other territories one plans to operate in to be sure that the proving ground is sufficiently similar to indicate similar results.

A manufacturer is then in a position to check his budget and know how to meet the requirements of his business.

It is much better to have one's funds in liquid form and thus be assured of financial ability to carry through the job undertaken, than to make an attempt to encompass a greater area than could be normally undertaken within the limits of not only one's capital, but one's ability to keep the operations under control.

It is necessary to consider the average rate of turnover of competitors and others who are operating in the same field, to determine just what should be a reasonable turnover of one's investment. When this is known, it is then a

simple matter to operate with safety and not to find one's self at the point where continued operation becomes impossible.

Nearly every businessman has had experiences which have disclosed many instances where firms have gone forward under excessive or tremendous expenditures with unbound faith in the efficiency of the advertising plans, and found themselves tied up, impossible to move further because of the lack of sufficient funds to continue. This situation develops just as frequently in large undertakings as in small, as lack of capital is merely one of degree.

The question is then asked, "What are the capital requirements of the manufacturer who does business with wholesalers, with wholesalers and retailers, and with retailers?" The question can only be answered fully after the entire method of selling has been settled. The question of pay-on-reorder consignments and guaranteed sales has an important bearing on the question.

With the latter included, capital requirements would be greater. The following formula may be safely followed. For every $100 worth of open account business per month done direct with retailers $300 to $350 worth of working capital is required to handle accounts receivable and inventory. Where business is done through wholesalers only $150 to $200 will be needed per $100 of sales. Where consignment sales, pay-on-reorder sales, or guaranteed sales are part of the selling plan, then an additional safety margin of 50 to 100 per cent would be required. Therefore in the event a volume of $2,000 per month were provided for, $6,000 to $7,000 would be tied up in accounts receivable on a direct basis, and $4,000 when doing business through wholesalers. This does not include any allowance for inventory. Capital then usually requires at least a 90-day investment. Therefore, on a 50 per cent gross cost with a $2,000 monthly sale, at least $3,000 of capital would be required for inventory. To this must be added selling, advertising, and other promotional expenses. To do a business of $2,000 a month direct to retailer a capital of $8,000 to $9,000 would be required. The same business done through wholesalers would require $5,000 to $6,000. To retailers direct, one could expect a capital turnover of 3 to 4 times and to wholesalers one of 5 to 6 times.

REACHING THE PROFIT STAGE

The question "How long will it take before business becomes profitable?" is just as problematical in this field as it is in any other. This can be determined only in a particular case after the attempt is made. But all of the vicissitudes common to every business are found in the drug field. There is an additional handicap—that of the uncertainty of capital requirements growing out of the marketing conditions of this industry, which are not easily analyzed in time to cope with them.

There have been firms that because of unusual merchandising and marketing methods have been able to reach a profitable basis within a period of two years, even one year. Hennafoam, after having had many ups and downs over a period of years, by careful advertising and low expense ratio, reached a profitable mark in less than two years. Miracle products like Outdoor Girl have done it in less; others take longer. Vince, another unusually successful drug product, was on a profitable basis within two years. The product was purely a professional one and was advertised through the dental profession only. The firm's volume at the end of five years was nearly $1,000,000. Still the product had the advantage of being manufactured and distributed by a New York wholesaler who was the owner of the business. This was probably an exceptional case, but other products have been introduced to a market in a not much longer period of time. Polymol, a hair preparation, introduced by a wholesale barber supply house, developed a large volume in less than a decade. This product, however, had the benefit of an existing staff of salesmen, contacting many thousands of outlets weekly, but without much original selling investment, as this cost was absorbed by the wholesaler's large line.

Drug products have been known to cost as much as 100 per cent of sales for advertising alone in the first year. Experience suggests that it should take not more than three year for any desirable product to reach a profitable sales volume. By the time the three-year period has elapsed, at least a portion of the market should be operating on a profitable basis, so that its profit may be used to continue exploitation into other and wider fields. Sometimes, specialty and novelty products, especially men's toiletries, become profitable immediately. This is particularly true of products introduced through the 5¢-and-10¢ stores, where products frequently obtain marvelous sales volume and profitable status in a very short time. Those so-called "hot" numbers, however, are not over frequent.

The general opinion in the drug field is that without any exceptional or unusual sales or advertising outlay, a product should be profitable between the fourth and fifth years. From that period on, the ratio of margin and profit should improve and the advertising percentage cost should have reached its lowest level. For this reason, if it is going to take that long to arrive at a profit, sufficient capital must be available to carry through the introductory and solidifying periods. If this is not done, then the business will reach the point, as so many do, where although an auspicious beginning had been made, further progress is impossible, owing to lack of funds. This is particularly true of single products. Products added to existing groups or organizations naturally have the advantages of lower general operating overhead, as selling and other distribution costs are lowered. That is why so many existing organizations purchase branded items of comparatively little volume, and add them to their lines. They can be operated at greater profits in already existing organizations than independently.

From time to time as the marketing and sales problems are progressing, checkup should be made. These checkups are particularly necessary where there is any likelihood of limitation of capital, although all business can well afford to check up from time to time. After the standard operating and promotional budgets have been established, it is well to ascertain from time to time whether predetermined expense ratios are being adhered to. Some costs may be found to be less than estimated, other costs may increase beyond original ideas. When these checkups are made regularly, frequently they provide adequate check on results and will reduce to a minimum the possibility of going astray into unprofitable territorial or merchandising plans.

Mention has been made of the various supplies, equipment, and materials that may be obtained. The sources of this material are varied but easy of access. When looking for sources of supply for containers, caps, and other accessories refer to AMERICAN PERFUMER, *Drug and Cosmetic*

Industry, Drug Trade News Fact Book, Modern Packaging, and *Packaging Catalog.* For raw materials, supplies and equipment reference should be made to AMERICAN PERFUMER, *Drug and Cosmetic Industry, Drug and Cosmetic Review,* and *Drug Trade News.*

The pages of these publications contain full information on the sources of supply of all necessary products; or the publishers will be glad to give detailed information on request. The usual printing and lithography establishments will be able to assist on labels, cartons, and package inserts.

Formulas and methods of manufacturing are given in the following books: "Chemistry & Manufacture of Cosmetics," Maison G. de Navarre, D. Van Nostrand Co., New York, N. Y.; "Production Control and the Analysis of Cosmetics," Maison G. deNavarre, D. Van Nostrand Co., New York, N. Y.; "Perfumes, Cosmetics, and Soaps," William A. Poucher, 3 volumes, D. Van Nostrand Co., New York, N. Y.; "Modern Cosmetology," Ralph G. Harry, Leonard Hill, Ltd., London, England, 1944; "Cosmetic Dermatology," Herman Goodman, McGraw-Hill Book Co., New York, N. Y., 1936; "Drug and Chemical Specialties," E. J. Belanger, Chemical Publishing Co., Inc., Brooklyn, N. Y.

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[1] *See also Chapter 20.*

CHAPTER 18

The Export Market

We do not subscribe to the old saying "The grass looks greener in the other fellow's field." But our own experiences and the records show that there is a large market for drugs and toiletries in countries other than our own. In fact nearly two billion people live outside these United States and it's people who buy and use drugs and cosmetics. During the war these people turned more and more to us. If our goods and prices are right, much of the new business will stay with us. This chapter tells you where best to look for foreign business and the conditions you will have to meet to secure the business. Except for a foreign language and somewhat different customs, this type of business presents very much the same problems as that of doing business at home. We would encourage producers in this field to study the market possibilities in foreign countries for their products, and then to go after it as intelligently as they do in the United States.

GENERALLY speaking, most American firms do not consider, if at all, the possibilities of the export market until they are well on the road to success in the national or local markets of the United States.

While this policy usually works out best, because of financial and management problems too difficult of solution early in a concern's progress, still there are many ways in which export markets can be developed without presenting insuperable problems or hindering the development of one's American market. It is well, therefore, to view foreign markets to determine whether they have possibilities and whether such possibilities may be developed simultaneously with exploitation in American fields, especially as they take longer to develop than domestic markets.

GENERAL CLASSIFICATION OF MARKETS

The world markets generally are divided into five groups, as follows: English speaking; Spanish speaking; French speaking; Portuguese speaking; German speaking. In addition to these there are a few important places, like the Netherland Indies, where Dutch is the principal language, and, of course, we have the individual continental countries of Europe each with a language of its own.

The English-speaking markets embrace the dependencies and associates of Great Britain, including those large markets for American products, Canada, Australia, New Zealand, and South Africa. In addition, English is adequate for most of the Far East. The vast majority of the Spanish markets are located in Spain and Central and South America; the Portuguese, in Portugal and Brazil. The French and German markets generally are concentrated in Central Europe and the Near East. Some of these markets were closed to us because of war and financial conditions. Some in Central Europe and the Near East may be closed for some time longer, but gradually, as peace is established, they may open up fairly well to our exports.

RELATIVE IMPORTANCE OF MARKETS

The English-speaking markets would appear to be the easiest in which American products could obtain a foothold, because of the similarity of language, similarity of package style, and the facility of understanding problems. Even though we do much business with them they are a much more difficult group to break into than either the Spanish or Portuguese. This is because shipments to all British dependencies are subject to import license requirements or availability of sterling exchange which is closely controlled by Britain. There are a few British markets

still open, like South Africa and Canada, but the Latin markets at this time give a much better opportunity of making progress in developing an export business.

In the Spanish groups, and incidentally Portuguese, where Brazil is the largest individual market, we have a situation that is not so difficult to meet as the English-speaking. Most products can be sold in these markets without much, if any, change in the package. Apart from the tariff, we do not face in these countries other trade barriers such as those arising from currency manipulation that favors home manufacturers. There are, of course, other problems to combat, such as the use of another language and conformity to certain well-understood customs, but they are insurmountable.

SIZE OF EXPORT MARKET

By 1938 the total world medicinal exports amounted to $123,700,115, of which the United States contributed 15.6 per cent or $19,269,295. Our exports were shipped literally all over the world. Our exports in 1914 were only $6,721,978. We have, therefore, had a steady growth and this slow but steady growth might have been expected to continue. The war beginning in 1939 had an unexpected effect on our export sales. Our medicinal exports increased rapidly, reaching in 1944 the huge total of about $106,000,000. Of this amount $43,000,000 represented lend-lease, mostly to the United Kingdom, the Soviet Union, China, and certain British Empire dominions. Some of the lend-lease markets ought to be retained. With Germany and Japan out as exporters, and also the German cartel connections with a few of our leading American firms, that kept them out of the Latin-American market, for some years to come our export market might settle down to $80,000,000 or four times what it was in 1938.

The export market for toiletries has never been as big as that for medicinals. Prior to 1944, when our toiletry sales reached almost $19,000,000, one of our best years was 1925. The exports by geographical divisions for that year are shown in Table 12. Even so we have also had a steady and substantial growth from the $3,750,000 of 1912-1913.

The destination of toiletries is, however, a little different from that of the prepared medicines. North and South American markets take only one-third as against one-half of the prepared medicines exported. Europe is the best customer. Great Britain particularly and, in total, English-speaking countries are much better markets than Spanish-speaking. In fact, the eight best markets for American toiletries have been the United Kingdom, Canada, British India, Philippine Islands, China, Australia, Hawaii, and Porto Rico. The eight best markets for prepared medicines have been the United Kingdom, Cuba, Mexico, Colombia, Canada, British India, Argentina, and Porto Rico. These markets are perhaps an indication of what can be done in other places. Securing proportionate results in other markets would mean a greatly increased sale of all such products in foreign trade. Even now our exports are of a value more than 6 per cent of our production so that any worthwhile increase in export would mean a substantial addition to domestic output. Since the European suppliers—German and French—are not making any shipments, or only shipments of small quantities to Latin America, the 22 countries of this large area afford the most susceptible field at the present time. However, the Latin-American market, while they will ultimately favor French perfumes, will still demand American toiletries.

TABLE 12

Export of Toiletries by Major Geographical Divisions*

Divisions	1923	1924	1925
Canada and adjacent territory	743,000	749,000	813,000
Mexico	201,000	184,000	116,000
Central America	393,000	423,000	469,000
West Indies	1,129,000	994,000	1,009,000
South America	1,118,000	1,139,000	1,112,000
Western and Northern Europe	2,823,000	3,576,000	4,043,000
Southern and Eastern Europe	31,000	119,000	257,000
Western Asia	11,000	20,000	24,000
Eastern Asia	1,416,000	1,331,000	1,630,000
Malaysia and Philippine Islands	850,000	1,005,000	1,160,000
Oceania and Australia	851,000	900,000	771,000
Africa	335,000	449,000	442,000
Others	838,000	908,000	1,152,000
Total	10,740,000	11,797,000	12,944,000

* Markets for American Toilet Preparations, U. S. Department of Commerce, p. 3.

It has been suggested that our toiletry manufacturers have not worked the Spanish and Portuguese countries as carefully or as persistently as have the manufacturers of prepared medicines. There would seem to be a large market to the south of us for medicines as well as toiletries and other chemical products. This is suggested by the following facts: European countries, Germany particularly, before World War II were developing their chemical industries as rapidly as they could to care for the business of their nationals and colonies. Germany, always a large exporter of medicines and toiletries, and confined somewhat before 1939 because of boycotts and lack of colonies, looked to Central Europe and Asia for business. Apparently, there has also been some loss of our foreign business in these products, in English-speaking countries, the loss, however, is more apparent than real. This is because American firms have established factories in Canada and the United Kingdom, not only to secure business in those countries going to local manufacturers, but to participate on a more even footing in some of the lucrative business of the British Empire. For a time in 1942 and 1943, licenses for toilet goods exports were hard to get but now that export license restrictions on most products no longer exist, the markets are open and particularly desirable. The problem for the exporter of cosmetics are the import restrictions which apply against cosmetics as a luxury, although are not so marked against drugs.

If you are a manufacturer with a well-established and efficiently-operated factory and if you have the necessary financial resources and executive personnel, you will find it little, if any, more difficult to open and operate a plant in Canada and Britain than here. On the other hand Latin America has a population nearly as large as that of the United States and in addition to bountiful supplies of raw materials are beginning to expand manufacturing, thus becoming better able to buy and raise their plane of living. In addition there is now a fine feeling between our southern neighbors and us, and as markets they are less competitive than before 1940, when they bought heavily from German and French manufacturers. One is tempted to paraphrase Greeley and say, "Look to the South, manufacturers." The following paragraphs are offered as suggestive of factors to watch out for in connection with your drive for this business.

In the Spanish and Portuguese-speaking markets, Amer-

ican products have a ready acceptance. The public has learned that the merchandise is of high quality. They are prone to want American goods, and the way is continually being paved for the use of American merchandise by the large number of American movies that are found in the cinema houses in these countries.

LOCAL CONDITIONS AND PREJUDICES

In a number of Spanish and Portuguese-speaking countries, there are special tariff regulations with regard to American products, and these conditions place American goods in a rather favorable status. This has been made more favorable because of the reciprocal trade treaties that have been negotiated. Furthermore, trade facilities through Central and South America are adequate for good coverage of the markets. Transportation is fairly well developed, banking facilities are usually ample, well-manned trade centers exist, with the result that these trade markets represent logical and easy ones for the sale of American drugs and cosmetics.

Drug products in a number of countries must be registered with the boards of health. Formulas, qualitative but not necessarily quantitative, must be disclosed, and in some countries they must actually be printed on the labels. However, these are not especially difficult handicaps, particularly since our new Food, Drug and Cosmetic Act also requires formulas to be printed on labels for domestic sale, and once they are known and conformed to, the possibility of marketing American products in this field becomes increasingly easy. A more formidable difficulty is the registration fee asked in many countries. These fees run into quite large sums in some places and add materially to the costs of selling in such places.

EXPORT SALES POLICY

In attempting to develop an export policy, the most important factor to be remembered is that the markets, the conditions and the circumstances surrounding the purchases of merchants, as well as that of the ultimate consumer, are radically different from domestic conditions. This means, therefore, that an export policy must be flexible and the exporter must prepare to change his marketing policies to meet the different conditions. No one policy can be set up as, for example, selling to wholesalers only, and expect that will care for all situations. We shall present six ways of breaking into foreign markets, all of which may be necessary in a widespread campaign.

HABITS OF DIFFERENT MARKETS

Domestically, the question of infinite details in the handling of orders is found unimportant. In the export field, however, some of the slightest changes from specific instructions become magnified, either by the customer or by those peculiar circumstances surrounding the operations of either the customs departments of the country, the habits of the people, or even the habits of the merchants themselves.

It is also very important in formulating an export sales policy to divorce from one's mind entirely the factors and methods used in developing markets for products in the United States. As a matter of fact, as different exports sales policies are required as conditions indicate for each market because what will work in one country may not work in another. The result is that any hard and fast rule or attempt to confine one's efforts too rigidly to a set plan is liable to result in disappointment and loss rather than the hoped-for increase in sales and profits.

METHODS OF SELLING

In deciding upon the way to handle an export department, we have mentioned that there are six different ways to sell merchandise. But the first thing to settle as a policy of the export department is to have the understanding that your agent, representative, or distributor in the field, if he has been selected properly, can and does very often know exactly what is needed to merchandise your line. Therefore, he should be given more than the usual consideration extended to a domestic salesman when he submits suggestions, plans, and ideas.

The more desirable, and usually the most effective methods of marketing a product follow:

1. BY MEANS OF THE MERCHANT DISTRIBUTOR: If you are successful in obtaining a representative in any foreign country who combines the functions of an importer with those of a sales representative or wholesaler, you have usually the ideal representative. In that case your problems are reduced to a minimum in many respects. In the first place, such a distributor, as a general rule, is not only thoroughly familiar with the market, but he has in the field capable representatives calling on merchants in various communities. He should also be completely familiar with the best and most economical methods of advertising in his market to obtain maximum results. Such a distributor enables you to concentrate all your energies in a particular country on one source. Your expenses are thereby kept down, and you are assured of adequate stock on hand, and, what is most important, of good merchandising coverage. The one great danger of the distributor-importer is that he may be handling too many lines so that your line or your item may be neglected in his trade set-up. The best way to avoid the dangers of that situation is, when making the representation agreement, to indicate therein the specific minimum quota for the country over a period of time, and to make the continuance of the agency subject to the maintenance of the agreed-upon volume. Such quota fixing is discussed below.

A restriction can sometimes be made to the effect that a competing line should not be handled by a distributor, and in a good many places that restriction will, of itself, assure the manufacturer of 100 per cent cooperation and activity for his merchandise.

2. A MANUFACTURER'S REPRESENTATIVE: In practically all countries there are individuals interested in selling merchandise who, over a period of time, have built up a speaking acquaintance with the merchants of their respective countries. These manufacturer's representatives are sales agents, as they are frequently designated, and are usually natives of the country in which they operate. They travel and solicit orders, taking care of the details necessary with regard to collections, assuring prompt payments, careful handling of drafts, and other work necessary to the successful sale of goods in a foreign market. In operating through a manufacturer's representative—who may be compared to the local salesman, just as the distributor may be compared to the local wholesaler—great care must be taken to select the right type.

Manufacturer's representatives are usually paid on a commission basis and arrangements are generally made that upon payment of the drafts, the export representative is paid directly by the bank, out of the funds collected.

3. TRAVELING REPRESENTATIVES: There are many firms which operate their own export department in the same way as they do their own territories by sending their own field men into market to solicit orders. These men generally are Americans who have had considerable contact and experience in the foreign markets and are fully conversant with the outlets and the methods of operation, and can give the manufacturer first-hand information and possibly exercise better control of his foreign markets than some other representatives might. For the moderate size manufacturer operations under this method may be too expensive and, therefore, inadvisable. However, sometimes several manufacturers of non-competitive lines get together and subsidize a salesman. When this is done, expense is reduced and the same satisfactory degree of control is maintained. One disadvantage of this arrangement is that handling of advertising is rather difficult and generally it will be found that some local distributor or distributors are necessary for the correct handing of the market.

4. EXPORT REPRESENTATIVES: Export representation can be handled in three ways. If you do not establish your own export department, one way is to sell to the export merchants who actually maintain warehouses, do their own buying, have their own representatives in the field, and pay for the goods in United States currency at the seaport. Of late years the number of these firms has diminished rapidly as export merchandising has become more difficult. In the years between 1914 and 1932, export merchants did a considerable part of the export volume that emanated from the United States. With the improvement in exchange and economic conditions in many countries and with the larger interest in American products in world markets, there has been a considerable renaissance in this method of operation.

When the proper export merchant is selected—one who has the necessary and desirable contacts in the field—a very satisfactory volume can be obtained from that source. Of course, there is little or no control by the producer over the distribution of merchandise, and—what is important—great care must be taken to see to it that the goods actually get into the countries for which they are intended and are not diverted to domestic markets to be sold perhaps at cut prices.

5. UNITED STATES BUYING AGENTS: Very frequently large merchants in overseas markets maintain resident buyers or buying agents here. This condition prevails mostly in the cases of other than English-speaking countries, although in South African countries and in Australia there are many firms who maintain buying agents as indicated above.

These United States buying agents are selected in the same manner as are domestic resident buyers. It is their duty to investigate the markets and obtain for their clients the best merchandise available that is suitable for their respective countries. When working with either export merchants or United States buying agents, it is always possible to become more thoroughly acquainted and posted on the conditions in the various countries. In this way, advertising cooperation and tie-ups can be most adequately developed at a minimum of trouble.

6. AMERICAN EXPORT AGENTS: There are many firms engaged in the business of exporting who do not buy merchandise for their own account but will accept samples from the manufacturer, distribute them to their respective representatives in various parts of the world, and solicit orders directly. In some cases these firms employ travelers. In other cases they merely operate through district representatives. The orders will be received and turned over to the manufacturer's export department through these export agents, who really act as general selling agents in a manner similar to a sales agency service operating in the United States. While this is a very economical method of working export markets, the disadvantage of it lies in the fact that most firms of this character have many lines and are not in a position to give careful and thorough attention to any one particular line unless it sells easily, is in demand, and takes a very commanding position in the agent's total business.

It is very important to determine carefully one's sales policy and to weigh carefully the particular methods that are best employed in any special country. Very frequently the geographical nature of a country is such that one representative or one distributor cannot cover the country properly. Therefore, it is best to determine how many or what kinds of distributors will be needed.

Some firms find it simpler to contact the offices of the exporters who are combination export managers for many lines. There are many in centers like New York, San Francisco, New Orleans and Los Angeles. These firms are direct factory representatives, and have offices or agents in various parts of the world.

Very frequently American manufacturers who have export representatives are only too happy to recommend their representatives to others in non-competing lines, because it is rare indeed for any export representative to handle only one line. It is, therefore, possible to be quite selective in the appointing of one's agent.

(Chapter 18 continues in the subsequent issue.)